

Rethinking World-Systems

Diasporas, Colonies, and
Interaction in
Uruk Mesopotamia

Gil J. Stein

The University of Arizona Press
Tucson

The University of Arizona Press
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Manufactured in the United States of America

04 03 02 01 00 99 6 5 4 3 2 1

Library of Congress Cataloging-in-Publication Data

Stein, Gil, 1956–

Rethinking world-systems : diasporas, colonies, and interaction
in Uruk Mesopotamia / Gil J. Stein.

p. cm.

Includes bibliographical references and index.

ISBN 0-8165-2009-7 (cloth)

1. Economic development. 2. Dependency. 3. Hacinebi Tepe (Turkey)

I. Title.

HD75.S753 1999

338.9561—dc21

99-6283

British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library.

Dedicated to the Memory of

Adnan Mısır

1940–1997

Director of the Şanlıurfa Museum

Mentor, Colleague, and Friend

Nur içinde yatsın

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Acknowledgments

In researching and writing this book, I benefited immensely from the friendship, assistance, and intellectual insights of numerous colleagues. The archaeological case study presented in the following chapters derives from six seasons of excavations (1992–97) at the site of Hacinebi Tepe in southeast Turkey. I am grateful to my friend Guillermo Algaze, whose research on the Uruk expansion first interested me in this problem. Even more significantly, Guillermo discovered the site of Hacinebi, encouraged me to excavate there, and recommended to the late Adnan Mısır (then Director of the Şanlıurfa Museum) that I be granted a permit to excavate at the site. I have learned much from stimulating discussions with Guillermo and have watched both our points of view slowly change and converge on many key issues. I am happy to acknowledge my intellectual debt to him.

I wish to express my appreciation to the Turkish Ministry of Culture's General Directorate of Monuments and Museums for permission to conduct the field research. Prof. Engin Özgen, General Director in 1992, was particularly instrumental in facilitating the Hacinebi excavations. From 1992 to 1994 the excavations were conducted as a joint project between Northwestern University and the Şanlıurfa Provincial Museum, codirected by myself and Adnan Mısır. The remaining three seasons (1995–97) were conducted as a Northwestern University excavation, under my direction. The project was funded with support from the National Science Foundation (grant number SBR-9511329); the National Endowment for the Humanities (grant numbers RO-22448, RK-20133-94, and RZ-20120); the National Geographic Society (grant numbers 4853-92, 5057-93, 5295-94, and 5892-97); the Wenner-Gren Foundation for Anthropological Research (grant number 6309); the Kress Foundation; the American Research Institute in Turkey (ARIT); the de Groot Fund of the Metropolitan Museum of Art; Faculty Research Grants from Northwestern University; and the generosity of private donors, most notably Joseph and Laura Kiser, Bill and Sally Anderson, and Paul and Mary Webster.

I owe a deep debt to the skill and professionalism of the international team of archaeologists, archaeobotanists, art historians, ceramic analysts, conservators, geophysical specialists, illustrators, and materials scientists who made up the field and laboratory staff of the Hacinebi project: Marta Ameri, Shahira Ashkar, Ahmet Ayhan, Adnan Baysal, Bünhan Bengi, Reinhard Bernbeck, Lauren Bigelow, M. James Blackman, Kenneth Boden, Tania Callas, Güner Coşkunsu, Cheryl Coursey, Julie Pearce Edens, Barbara Foster, Julia Frane, Fokke Gerritsen, Zafer Görür, Anne Grauer, Sarah Hinds, Jessica Johnson, Kathryn Keith, Çiğdem Köksal, Nicola Laneri, Nancy Mahoney, Katherine May, Naomi Miller, Belinda Monahan, Jeffrey Nicola, Hadi Özbal, Rana Özbal, Holly Pittman, Susan Pollock, J. Paul Pressley, Paola Pugsley, Lynn Rainville, Clemens Reichel, Margaret Reid, Mark Schwartz, Lewis Somers, Sharon Steadman, Joel Sweek, Anwen Tormey, Katherine Untch, Jason Ur, Jill Weber, and Henry Wright. I am especially grateful to Associate Directors Christopher Edens, Alan Lupton, and Augusta McMahon, whose excavational expertise, laboratory skills, and organizational efforts were essential to the success of the fieldwork. Our driver, Mustafa Ercan, and our cook, Necmi Yaşar, kept the crew well fed and well supplied and got us to work both safely and on time; we cannot thank them enough for their dedication and friendship.

Thanks are also due to our on-site representatives from the General Directorate of Monuments and Museums—Hamza Güllüce (1992–95), Mehmet Yücel Kumandaş (1996), and Mehmet Önal (1997)—for their assistance with the day-to-day administrative challenges of conducting the excavations. I also gratefully acknowledge Kemal Işık, the Muhtar of Uğurcuk village, along with our numerous friends and coworkers in that community, for their hospitality and support. Finally, I thank the Directors of the Şanlıurfa Museum, Adnan Mısırlı (1992–96) and Eyüp Bucak (1997–98), without whose administrative assistance the excavations and artifact analyses would not have been possible.

The library research and writing of this book took place over the course of four years, with generous assistance from a number of sources. Northwestern University granted me two years of leave time to take up the writing fellowships I needed in order to produce a manuscript. The School of American Research (Santa Fe, N. Mex.) granted me a Resident Scholarship in 1994–95 that enabled me to read, think about, and finally write the first five chapters. I am grateful to Douglas Schwartz, President of SAR, for this fellowship and to the other Resident Scholars in our group—Marisol de la Cadeña, Jill McKeever Furst, André Gingrich, Vernon Scarborough, and Christopher Steiner—for their comments and critical input along the way. The manu-

script was completed with support from a Howard Fellowship in 1997–98, granted by Brown University.

Many of the ideas presented here were developed, refined, or changed as the result of fruitful discussions with the community of scholars specializing in the Uruk period, ancient culture contact, and Near Eastern archaeology—most notably Guillermo Algaze, Terence d'Altroy, Christopher Edens, Marcella Frangipane, Barbara Helwing, Philip Kohl, Hans Nissen, Holly Pittman, Susan Pollock, Mitchell Rothman, Glenn Schwartz, and Henry Wright. Many of these researchers were participants in an advanced seminar on the Uruk expansion, organized by Mitchell Rothman and held at the School of American Research in February 1998. My colleagues in the Anthropology Department at Northwestern University—most notably Jim Brown—have directed me toward important bibliographic sources while providing the benefits of insights from their own research areas. I am especially grateful to Guillermo Algaze, Christopher Edens, Charles Stanish, and two anonymous reviewers for the University of Arizona Press for their meticulous reading and detailed comments on earlier drafts of this manuscript. Thanks are also due to Prof. John Hudson and Ms. Mary Costello of the Northwestern University Anthropology Department's Cartography Laboratory for generating the maps used in this book. Dr. T. Cuyler Young Jr. of the Royal Ontario Museum graciously provided illustrations of architecture and artifacts from his excavations at Godin Tepe (Iran). I am happy to acknowledge Christine Szuter of the University of Arizona Press for her editorial assistance. Finally, I thank my wife, Elise Levin, whose patience and encouragement enabled me to see this book through to completion.

1

Interregional Interaction and the Development of Prehistoric Complex Societies

The Research Problem

Eastern European intellectuals used to joke that in Marxist historiography, the future is certain, and only the past is subject to change. Certainly, the second half of that comment applies to archaeological thinking about the role of contact between regions in the development of complex societies. For over a century, scholars have debated the degree to which different forms of interregional interaction—trade, warfare, migration, or the diffusion of ideologies—have affected the formation of internally specialized, hierarchical polities. In the chapters that follow, I present a critical evaluation of “world-system” theory, one of the primary models used by historians and archaeologists to explain the expansion of social complexity from early urban or territorially based states in “core” areas outward to less developed polities in neighboring areas, which they label “peripheries.”

The world-system model emphasizes the role of long-distance trade dominated by the core area as the main factor explaining both the political economy of the periphery and its trajectory of developmental change. The classic and defining example of a world-system is the development of European colonial control in Africa and the Americas from the sixteenth century to the present. Scholars have widely used world-system theory to account for secondary state formation in earlier societies, but it has yet to be rigorously tested against the archaeological record of ancient colonial systems.

The world-system perspective can distort our understanding of developmental change in ancient societies because it overemphasizes external dynamics, such as long-distance trade and the dominant role of the core, at the

expense of internal dynamics in the so-called periphery. We must strike a balance between the recognition that no society can be understood in complete isolation from its neighbors and the assumption that contact with the outside is the main factor explaining a society's development.

Core-controlled exchange networks of the world-system variety are just one in a range of possible economic and political relations between two different regions. The extent to which a core area can influence the development of other polities is mediated by such factors as transportation economics, technological differences, the organization of production, and the balance of military power between the core and the periphery.

In many cases, the polities of the periphery can set the terms of interregional interaction to their own advantage, even when dealing with a more powerful society in the core region. We cannot simply assume that every network of connections between societies forms a world-system. We need a more flexible perspective that (a) incorporates both the internal dynamics of political economy in the peripheral polity and the external dynamics of contact with neighboring societies into a model that allows for a range of different forms of interregional interaction, and (b) specifies the variables that shape the organization of interaction between societies at different levels of sociocultural complexity.

This book has two main parts. The first section contrasts the world-system with alternative perspectives on the role of interregional interaction in the development and spread of complex societies. In it, I outline the main features of the world-system model and describe how it has been used and, in some cases, modified over the two decades since its initial formulation by Wallerstein (1974a). Virtually all applications of the world-system model to historical and archaeological cases share three main assumptions: (a) that the core dominates the periphery through some combination of military, technological, ideological, or organizational superiority; (b) that the core controls long-distance exchange with the periphery; and (c) that changes in the organization of long-distance exchange structure all other aspects of political economy in the periphery. I critique these assumptions of the world-system model and propose, as alternatives, two complementary theoretical frameworks for studying interregional interaction.

The first of these is the "distance-parity" model, which suggests that the distance-decay in the ability of the core to project its power into the periphery altered the nature of interregional interaction. The distance-parity model thus views world-systems as just one modality in a broader range of forms of political and economic relations among complex societies. The distance-parity model examines interregional interaction at a large scale, that is, relations between polities.

The second complementary framework is the "trade-diaspora" model, which describes and explains variation in exchange systems from the perspective of the participants within the polities: foreign traders and the indigenous host communities with whom they are interacting. These alternative models allow us to reconstruct power balances and the organization of interaction between two regions, without world-system assumptions of dominance and inequality.

In the second section, I derive a set of general archaeological correlates of the world-system and distance-parity models and test them against the archaeological record of the expansion by the first urbanized states of Mesopotamia into the resource-rich Anatolian highlands during the fourth millennium B.C. Current research suggests that this is the world's earliest known colonial network. A number of scholars have considered this "Uruk expansion" to be one of the earliest documented world-systems. I use the results of archaeological excavations at Hacinebi (pronounced "Ha-juh-NEH-bee"), an Anatolian settlement on the Euphrates River trade route in eastern Turkey, as a case study of interaction between the Uruk Mesopotamian core area and its highland periphery.

Hacinebi is an ideal test case because it has both a precontact occupation, when only the local Anatolian culture was present, and later, a contact phase, when a small group of Mesopotamians appears to have been living as a colonial enclave in one corner of the settlement.

The Hacinebi data do not fit the expectations of the world-system model. Comparison of the economic data from the precontact and contact phases at Hacinebi indicate that the Mesopotamians did not dominate the local people economically or politically; instead, the people of this distant periphery, 1,000 km upstream from the city of Uruk, seem to have been dealing with the Mesopotamians as equals in a symmetric exchange system. These results suggest that the distance-parity model accounts for Mesopotamian-Anatolian relations more accurately than the world-system model. More importantly, the Hacinebi data show that we must look more closely at the local cultures of peripheries, if we are ever to develop realistic cross-cultural models of variation in colonialism, exchange, and secondary-state formation in ancient societies.

Changing Perspectives on Interregional Interaction

To what extent does the formation of complex societies in one area affect the social, political, and economic development of neighboring polities? Interre-

gional interaction as a cause of change has always been closely tied to archaeological and social-anthropological theory. Schortman and Urban (1992:11) suggest that generalizing comparative paradigms, such as nineteenth-century evolutionism and twentieth-century cultural ecology, have downplayed or ignored the role of interregional interaction, whereas historically particularistic frameworks, such as diffusionism and, more recently, postprocessual archaeology, have devoted more attention to this topic.

As part of the renewed focus on interregional interaction, researchers have started to look differently at the process of social change, where it originates, and how best to study it. Important conceptual shifts have taken place in four aspects of the analytical frameworks used to study the development of complex societies: (a) basic models of social structure, (b) scale of analysis, (c) origins of sociocultural change, and (d) the level of abstraction or generality in modeling.

One of the most important shifts in archaeological approaches to complex societies centers on the most basic conceptions of social structure. Since the early 1960s, the ecosystemic approach in processual archaeology drew on general systems theory (Bertalanffy 1969) and cultural ecology (Steward 1955) to define societies as well-integrated, optimizing systems composed of discrete subsystems, in a constant process of adaptation to their environments (e.g., Binford 1965).

In recent years, however, many archaeologists have moved from a systems perspective toward a more heterogeneous view of society or from integrative models toward conflict models of complex organization (Service 1978). Drawing on the work of sociologists such as Mann (1986), Giddens (1984), and others, many archaeologists have found it useful to adopt a view of society as a fuzzy network composed of numerous partially overlapping and partially competing groups.

Different groups, classes, factions, or institutions within a complex society may be in frequent interaction or alliance with each other, but they do not necessarily share the same values, ideologies, or goals (Brumfiel 1992; Brumfiel and Fox 1994). Conflict and rivalry can even exist within such a specific group as the ruling political elite (e.g., Wright 1984). These models subsume many aspects of traditional Marxist class-conflict theories from the nineteenth and early twentieth centuries (e.g., Engels 1895; Lenin 1932), but go beyond them in three important ways: (a) they do not limit the main sources of social heterogeneity to class differences, (b) they emphasize the flexible and contingent nature of the heterogeneous groups within the society, and (c) they allow for ideological factors to play a determining role in group formation.

This more heterogeneous model of complex societies eschews a focus

on formal institutions, arguing instead for a concern with mapping the spatial distribution and diachronic change of such variables as political, ritual, or economic power (Clark and Parry 1990; Yoffee 1979; Yoffee and Sherratt 1993); productive organization (D'Altroy 1994; Sinopoli 1988; Stein and Blackman 1993); gender relations (Brumfiel 1992; Costin 1993; Gailey and Patterson 1987; Joyce 1992; Pollock 1991); and the scope of centralized control (Michalowski 1987; Rothman and Blackman 1990; Zeder 1994; Zettler 1987) over an uneven social landscape (Adams 1978).

In this more fluid, conflict-based model of society, the archaeological patterning we observe does not reflect a unitary social structure, but is instead more accurately understood as a composite outcome, reflecting the unintended long-term consequences of short-term decision making by multiple alliances of local groups often with conflicting goals (Brumfiel 1992:553; Stein 1994b:12). In heterogeneous polities, the relationship between individual agency and larger scale group organization allows for a degree of internal variation that can be crucial for understanding how and why these societies change over time.

The second important theoretical shift concerns the scale of analysis employed to model the development and functioning of complex societies. With few exceptions (e.g., Caldwell 1964; Flannery 1968), the ecosystemic approach has tended to treat individual societies as the significant unit of analysis, using adaptationist interpretations of the interplay between cultural and environmental factors. In recent years, dissatisfaction with the assumptions implicit in cultural ecology has led both processual and postprocessual archaeologists to broaden the geographic and organizational scale of their analyses from single societies or polities to a regional and interregional focus comprising multiple polities and/or societies.

In one of the best known examples of this broadening of geographic focus, Renfrew and his colleagues argue that states emerge in clusters as a direct result of interaction (either peaceful or hostile) among neighboring polities. In this view, one can best study the developmental processes of social complexity for the Sumerian states or the first-millennium-B.C. Greek poleis through a focus on "peer polity interaction" (Renfrew and Cherry 1986).

This same recognition that complex societies cannot be understood in isolation from their neighbors led researchers to shift their focus geographically and theoretically from attempts to explain the origins of the six primary states (Mesopotamia, Egypt, Indus, China, Mesoamerica, Andean South America) toward an interest in secondary states, i.e., polities that developed through interaction with primary states (Champion 1989; Price 1978).

This broadening of analytical scale, from the individual state to a multi-

polity unit of study, has led to a third major change in archaeological thinking about social complexity. The focus on multiple secondary states has encouraged a shift in ideas about where sociocultural change originates. That is, we are now asking whether secondary-state development originates inside the society (internal dynamics) or in the broader interregional system outside the individual polity (external dynamics).

Several theoretical perspectives emphasize the internal dynamics or endogenous processes through which change originates within any given society as the primary unit of analysis. Thus, for example, classic Marxian conceptions (Engels 1895) argued that complex societies, most notably the state, develop through internal dialectical processes deriving from economically determined relations of production and class conflict. Similarly, many of the "prime mover" models of state origins rely on endogenous factors, e.g., the need for control over irrigation systems (Wittfogel 1974) or population growth (Carneiro 1970), to account for the development of social complexity (Renfrew 1986:6).

To avoid this overreliance on a single form of causality, processual models of state development often combine internal and external dynamics, as exemplified in Flannery's (1972) discussion of the ways in which culturally specific environmental or social stresses (originating either inside or outside an individual society) can trigger such systemic transformations as the increasing segregation and centralization of decision-making organizations (see also Johnson 1977, 1978, 1982; Wright 1978; Wright and Johnson 1975).

But the trend toward a multipolity scale of analysis has shifted the focus from the interplay of external and internal dynamics of change in a single society to interpretations that stress either external factors in a larger scale system or the process of interaction itself as the crucial elements in social development (Trigger 1989:330). In some ways this development is reminiscent of the cultural diffusionism of the late nineteenth and early twentieth centuries—this was, of course, the classic example of an external dynamic for the development of social complexity (Schortman and Urban 1992). In contrast with the earlier, diffusionist constructs, the more recent external dynamic models rely on neo-Marxian or materialist concepts to account for the systemic logic of developmental change in these interregional networks (Champion 1989:9; Renfrew 1986:6).

The fourth change in theoretical perspective concerns the level of abstraction or generality employed in research on complex societies—whether the development of a given civilization can be better explained as the result of a culture-specific historical trajectory or as the expression of underlying cross-cultural regularities shared by complex societies in different parts of

the world. Drawing on Steward's (1955) cultural ecology paradigm, the ecosystemic approach of the 1960s and 1970s emphasized the search for cross-cultural similarities in the causes, mechanisms, processes, and resultant social formations in the development of complex hierarchical polities.

Postprocessual archaeologists in turn have rejected the comparative orientation of the ecosystems approach as an ahistorical epistemology that obscures variation by ignoring the role of individuals and culturally specific systems of meaning (Hodder 1986:27–33). At the same time, archaeologists have become increasingly concerned with integrating textual records with archaeological data, whenever possible, in order to generate more accurate accounts of historical trajectories in specific ancient societies (Brinkman 1984; Gates 1988; Sinopoli 1988; Stone 1987).

Finally, this trend toward historicism also derives from a renewed questioning of the evolutionary typologies of bands, tribes, chiefdoms, and states formulated by Service (1962) and the related system proposed by Fried (1967) to allow for cross-cultural comparisons in social evolution (e.g., Yoffee 1993). As a result, with few exceptions (Flannery 1986a; Schortman and Urban 1994; Spencer 1990), archaeologists have become increasingly reluctant to define cross-cultural regularities in developmental processes or to examine the ways that these regularities may be differentially expressed in specific historical sequences.

Although far from universal, these trends have come together in a largely implicit and eclectic general perspective on the development of complex societies. Most archaeological analyses dealing with these issues now focus on interregional interaction and secondary-state societies, usually relying on external dynamics of change, often expressed in the form of conflict-based models with differing degrees of historical specificity.

The most notable expression of these developments can be seen in the appropriation by archaeologists of macroregional models from economics and social history, for example, Frank's (1967) dependency theory and, especially significant for the discussions here, Wallerstein's (1974a) world-system model. The world-system model has become the most commonly used external dynamic explanatory framework for the archaeological study of secondary-state development (Algaze 1993b; Champion 1989; Chase-Dunn and Hall 1991; Kohl 1989; Rowlands 1987; Schortman and Urban 1992).

2

The World-System Model and Its Critics

World-System Structure and Concepts

Initially formulated by Wallerstein (1974a), the world-system model is an ambitious attempt to explain the development and functioning of the European capitalist system on a global scale from the sixteenth century to the present. The model was developed as a reaction against development theory and modernization theory, both of which focused on the individual nation-state as the unit of analysis in their explanations of the economic differences between the Western industrialized countries and those developing countries often called the Third World.

Drawing on dependency theory (Frank 1966, 1967) and the broad geographic perspective of social history pioneered by Braudel (1972), Wallerstein argues that the political and economic development of Europe over the last three centuries cannot be understood by studying a nation-state in isolation. Instead, it is necessary to look at a larger scale, multinational system of economic and political interaction. This is called a "world-system."

The term "world" is used not in the sense of the entire planet, but instead as a way of emphasizing that this interregional network is larger than any of its constituent political units (Wallerstein 1974a:15). Thus, several world-systems can coexist at any given time. The key principles of world-system structure are: large-scale, interregional (or "axial") division of labor and productive organization; unequal economic relationships grounded in asymmetric exchange between regions; and the hegemony of strong states in the core region (Martin 1994:155; Nash 1981:395,401; Schneider 1977:20; Wallerstein 1974a:38).

World-systems develop when formerly autonomous polities ("mini-

systems") begin to have high levels of interaction with each other, mainly through trade. Based on initial differences in the distribution of population, resources, and technology, certain states become more powerful than others. As a result of sustained economic interaction, this multiplicity network develops a functionally specialized, tripartite hierarchical structure consisting of a "core," "periphery," and "semiperiphery." Wallerstein emphasizes that these three zones differ in terms of their degree of political centralization, organization of labor, and main products.

The core region dominates the world-system. Comprising several competing states, the core is highly developed in its political centralization, productive resources, accumulated surplus, and military force. Centralized authorities directly or indirectly control the system's exchange relationships while encouraging the accumulation and investment of surplus. The core areas have large-scale diverse economies that are characterized by a skilled pool of free-wage labor specializing in the manufacture of valuable finished products for home consumption and export to the periphery.

The periphery, at the outer edges of the world-system, specializes in the production of lower order goods, that is, products where the return on labor inputs is much lower than in the core (Wallerstein 1974a:302). Production in these areas relies on such labor systems as slavery or coerced cash crop labor (Wallerstein 1974a:87). Peripheral economies focus on the monoculture of staple foodstuffs and provide raw materials to the core.

In political terms, the periphery is composed of polities less centralized and weaker than the core states. The periphery is controlled by either direct colonial administration or weak local rulers who are dependent on the core. The core's political hegemony and economic power allow it to accumulate surpluses at the expense of the periphery through an asymmetric or unequal exchange system (Wallerstein 1974a:37-38; see also Emmanuel 1972; Frank 1966, 1967).

The semiperiphery is geographically and organizationally intermediate between the core and periphery. Its political system is less complex than that of the core, but often more centralized and hierarchical than those of peripheral polities. In economic terms, the semiperiphery also falls somewhere between the core and the periphery, especially with regard to the system of labor control, which Wallerstein suggests is characteristically sharecropping, as opposed to free or coerced labor (Wallerstein 1974a:102-103). The semiperiphery is said to function as an economic and political buffer zone between the core and periphery, thereby stabilizing and perpetuating the system as a whole.

Beyond the periphery of a given world-system lies the "external arena,"

although the boundaries between the two are often fluid and difficult to define. This zone can consist of mini-systems that are not involved in regularized exchange with the core, periphery, or semiperiphery.

Alternatively, the external arena may comprise other world-systems that are connected with a given world economy only through small-scale exchanges of preciousities or luxury goods (Wallerstein 1974a:301–302). Thus, for example, Han China would be considered an external arena to the Roman Empire, given that the two world-systems were connected only by a very limited exchange of preciousities.

Although they link vast areas, world-systems are subject to certain limitations of scale. Wallerstein (1974a:338) suggests that world-systems expand until they reach a point of equilibrium between economic gain and losses due to transport costs or the resistance of other polities (or other world-systems).

The average size of world-systems would appear to be limited to the distance one could traverse in forty to sixty days (Wallerstein 1974a:16–17; see also Braudel 1972:371–379 for a discussion of the effects of distance on imperial administration and interpolity trade). The size of a given world-system is constrained by the technology of transportation and communication within its bounds (Wallerstein 1974a:349). Because these factors are variable, world-system boundaries can change quite noticeably over time.

Within the boundaries of a given world-system, each zone has a different characteristic mode of labor control because each form is best suited to the particular types of production taking place in that area (Wallerstein 1974a:87). As a result, instead of being discrete entities, the core, periphery, and semiperiphery play functionally distinct economic roles as parts of a large-scale, integrated system of capital accumulation.

The core area dominates the periphery economically through its control over the terms of trade. Wallerstein argues that the core's demand for staple foodstuffs and raw materials (rather than luxury goods or preciousities) provides the main impetus for its expansion, exchange with, and domination of the periphery (Wallerstein 1974a:41–42). Technological and military advantages also play a key role in the core's ability to set the terms of trade with the periphery.

As previously stated, one of the central tenets of the world-system model is the idea of a fundamental asymmetry in power relationships between the core and the periphery (Wallerstein 1974a:349). The dominant core in essence creates the periphery by pulling it into the international exchange system as an economically and politically dependent area. This relationship initially builds up the power of local elites and can lead to the development of

more complex societies in an undeveloped periphery (e.g., Ekholm 1977; Kipp and Schortman 1989; Terray 1974).

But at the same time, the periphery, which was once economically autonomous, becomes overspecialized in the production of raw materials to supply the needs of the core. The core in turn exploits the periphery through its control over the exchange system and over the manufacture of finished products. This transformative effect of interregional exchange is crucial for the emergence of a world-system.

It is important to note that the core too is transformed by participation in this network. In fact, it is asserted that the developmental pathways of the core states can only be understood in the context of the development of the world-system as a whole (Wallerstein 1974a:67, 136).

This geographical division of labor, through the transformative effects of interpolity exchange, forms a critical point of difference between the world-system model and Frank's (1966, 1967) dependency theory. In dependency theory, the dominant "metropole" (roughly equivalent to Wallerstein's "core") and the subordinate "satellites" (Wallerstein's "periphery") are independent societies linked by surplus extraction mechanisms. The satellites can cut these connections by revolutionary political action to create true economic independence from the metropole (Martin 1994:154–155).

By contrast, in the world-system model, the core and periphery are interdependent, linked as functionally and geographically specialized parts of a single integrated system. Interpolity linkages extend beyond surplus extraction to encompass the organization of labor and political structure as well. As a result, in Wallerstein's theoretical framework, peripheries would not be able to simply withdraw from a world-system without suffering the most drastic and devastating economic consequences.

Wallerstein distinguishes between two main kinds of world-systems: world empires and world economies. In world empires, the core area is a single polity that exercises both political and economic control over surrounding peripheral regions, in a system where the latter are reduced to the status of administered, tribute-paying provinces. The Roman and Persian Empires are classic examples (Wallerstein 1974a:15–16).

By contrast, in world economies the core area consists of multiple competing polities that exercise economic (but not necessarily political) control over the periphery. Instead of direct tribute, the core of a world economy extracts surpluses primarily through its control over the exchange system and the terms of trade. Competition among the different states of the core region gives world economies a structural flexibility (Nash 1981:395) that enables them to last longer than world empires. World economies can thus

remain quite stable as overall systems, despite changes in the predominance of one core state over its rivals or changes in the boundaries of the inter-regional network.

The modern European capitalist world economy is the defining example of this second form of world-system. Starting in the late fifteenth century, the newly emergent nation states of Europe—mainly Spain, Portugal, England, and the Netherlands—began a large scale process of maritime exploration, trade, and warfare in the Americas, Africa, and Asia.

These contacts literally led to the establishment of a new world order in which international political and economic relationships were characterized by rivalry among the European core states for economic and political control over trade, the natural resources, and the labor of the African, Asian, and American peripheries. This modern world-system developed in several stages.

In Wallerstein's view, the Americas were the first of these regions to be incorporated into the world-system as a colonial periphery under Spanish and Portuguese control in the sixteenth century. Only later in the eighteenth and nineteenth centuries did the technological and military advances of Europe allow this region to reduce the relatively weakened polities of India, China, and Africa to the status of subordinate peripheries and semiperipheries (Wallerstein 1974a:328–333; see also Bairoch 1988:382–383). These zones were either ruled directly by the states of the European core or else were political dependencies whose local rulers exercised only nominal sovereignty.

The peripheries supplied the core states with such raw materials as slaves, gold, silver, lumber, sugar, cacao, tea, cotton, tobacco, rubber, and tropical oils. The core provided finished industrial goods such as firearms and textiles (along with semiprocessed agricultural goods, for example, opium) to the periphery.

By the late nineteenth century, the European core controlled its peripheries through combinations of political administration, effective monopolization of the exchange system, and the periodic use of force whenever necessary to insure local compliance. The technological and military underpinnings of European dominance in this economic system were captured in verse by the Victorian satirist Hilaire Belloc, who observed,

The difference is that we have got
the Maxim gun, and they have not.

Since its initial formulation in 1974, the world-system model has evolved, as researchers have attempted to apply the concept to non-European world-

systems and as they have begun to look at the mechanics of interregional exchange in greater detail.

A recent review by Martin (1994:157) suggests that current research concentrates on the details of world-system dynamics; two of the main new foci are “incorporation”—the study of the processes by which precapitalist societies are drawn into the world-system—and “commodity chains,” analyses of the movement of goods through the world-system. Although concepts such as modes of labor control and unequal exchange are less emphasized as the subjects of active research, they remain central, if not implicit, parts of the notion of core dominance in the world-system model (Martin 1994:165–166).

For anthropologists, the most important change in the world-system model has been Schneider's (1977) extension of the construct to precapitalist interregional exchange. Wallerstein had initially argued that the development of highly centralized states in Europe and the economic integration of multiple regions into a world-system could only take place through the exchange of such bulk commodities as foodstuffs and raw materials, rather than luxury goods or preciousities (e.g., pepper, spices, and silk). The latter were excluded as transformative exchange items because European demand was said to be low, as was the volume of the luxury trade during the earliest stages of the European capitalist expansion. As a result, Wallerstein contended that preciousity exchange was structurally different from commodity exchange and had little effect on the growth of state power in the core (Wallerstein 1974a:41–45).

Schneider (1977:21) argued that this distinction between bulk commodities and luxury goods is a false dichotomy that minimizes the systemic importance of preciousity exchange. Drawing on the work of Adams (1974) and other anthropologists, Schneider (1977:23) noted that the exchange of preciousities could bring about large-scale transformations in technology, leadership, class structure, and ideology at both ends of the trading network.

Because preciousities were “politically charged commodities” (Brumfiel and Earle 1987:5) of crucial importance to the power of ruling elites, ancient and/or non-Western empires such as Persia, Rome, and China went to great efforts to acquire precious metals and other luxury goods, both through military force and exchange (often the export of textiles; Schneider 1977:24). Given that the value of preciousities is ideologically determined by notions of scarcity, sanctity, or status, the recognition of these goods as transformative trade items has the advantage of inserting cultural factors into the essentially economic mechanisms of the world-system model.

Schneider suggested that if one allows for the transformative effects of preciousness exchange, then it becomes possible to extend the world-system model to non-Western, precapitalist societies as well. This provided the epistemological rationale for archaeologists to attempt to apply the world-system model to early historic and prehistoric complex societies.

Critiques of the World-System Model

Although the world-system construct has evolved considerably since its initial formulation in 1974, virtually all theoretical versions and applications of the model share the same three assumptions: core dominance, core control over an asymmetric exchange system, and the causal primacy of long-distance interaction in structuring the political economy of the periphery.

These assumptions eliminate or minimize the roles of polities or groups in the periphery, local production and local exchange, and internal dynamics of developmental change. Critiques by historians, sociologists, economists, historians, and anthropologists provide compelling arguments that these assumptions are highly questionable, for world-systems in general, for many archaeologically known interaction systems, and even for the case of Europe since the late fifteenth century—the type-case on which the model is founded.

Core Dominance and the Passive Periphery

The assumption of core dominance forms an essential element of the world-system model:

From . . . the standpoint of the world-system as a whole, if there is to be a multitude of political entities (that is if the system is not a world empire) then it cannot be the case that all these entities be equally strong. For if they were, they would be in the position of blocking the effective operation of transnational economic entities whose locus were in another state. It would then follow that the world division of labor would be impeded, the world economy decline, and eventually the world-system fall apart. It also cannot be that no state machinery is strong. For in such a case, the capitalist strata would have no mechanisms to protect their interests, guaranteeing their property rights, assuring various monopolies, spreading losses among the larger population, etc. It follows then that the world economy develops a pattern where state structures are

relatively strong in the core areas and relatively weak in the periphery. (Wallerstein 1974a:354–355)

Political structures of the two poles of the world-system are viewed as so closely tied that the strengthening of state structure in the core “has as its direct counterpart the decline of the state machineries in peripheral areas” (Wallerstein 1974b:403; see also Champion 1989:6; Martin 1994:154; Nash 1981:401; Wallerstein 1974a:16, 1975:23).

In order to evaluate the general applicability of this model, Nash (1981:408) argues that we need to examine specific case studies. Analyses by historians, sociologists, and anthropologists have challenged the assumption of core dominance both on theoretical grounds and through case studies that directly contradict this central tenet of the world-system framework.

At the most basic level, the postulated structure of world-systems and the degree to which they are integrated wholes are both highly questionable. When we look at actual ethnographic, ethnohistorical, and archaeological examples, do the core, periphery, and semiperiphery operate according to the structural principles proposed by Wallerstein? Do these different regions form a single interdependent, centrally controlled economic entity?

Core dominance is generally assumed to be grounded in technological and organizational advantages over a less advanced periphery. Although these factors certainly contributed to Western ascendancy over Africa and Asia in the late nineteenth century, this was not the case for the first two centuries of the European expansion in these areas.

In fact, the long-term technological advantages enjoyed by Europe in the last century may well be the exception, rather than the rule, in the history of interregional interaction. Thus, for example, archaeologists such as Kohl have shown that the ancient world was characterized by multiple overlapping cores and by an ease of technology transfer that made it difficult for a single core area to maintain its dominance over a given periphery (Kohl 1989).

The political aspects of the core dominance assumption are also open to question. Skocpol critiques the assertion that strong states necessarily grow up in the core area (e.g., the absolute monarchies of northwest Europe) while the peripheral states are necessarily weaker. According to the world-system model, the Netherlands and England were some of the main core polities in the sixteenth and seventeenth centuries. But neither one could be considered a strong state. The Dutch state was simply “a federation of merchant oligarchies,” and England under the Tudors had no large standing armies and no bureaucracy that penetrated to the local level; as a result, the

English monarchs "could only rule through cooperation with locally powerful notables" (Skocpol 1977:1084).

In contrast to the relatively weak state machinery of these core polities, the contemporaneous kingdoms of Sweden and Prussia were both examples that "a very strong state . . . can be built on a peripheral agrarian base, and that, once built . . . can reshape the economic future of the area in question" (Skocpol 1977:1085). Thus, even in the European capitalist system, some of the most economically important core states had weaker state machinery than their counterparts in the periphery; this directly contradicts one of the most basic assumptions of the world-system model (Skocpol 1977:1085).

This disjuncture between economic and political structure highlights the fact that the economic, political, and ideological dimensions of core-periphery relations need not coincide. Assuming that they do only serves to obscure a complex picture in which no single region dominates every aspect of interregional interaction (Schortman and Urban 1994:402).

These examples make it clear that many of the difficulties with the core dominance assumption, and the world-system model in general, stem from the categorical definitions of cores and peripheries as ideal types (Lane 1976:529).

The concept of the semiperiphery is also problematic. According to Wallerstein, the semiperiphery acts as a stabilizing political and economic buffer between the core and the periphery. Although its political organization is more centralized than the periphery, the semiperiphery is still seen as relatively weak and dominated by the core. These characterizations may apply in some cases, but they are not accurate as general principles. For example, instead of being a stabilizing force, the semiperiphery would appear to be the most unstable part of the world-system because many of the most important revolutionary movements in the twentieth century originated in countries that Wallerstein defines as semiperipheries: Russia, China, Algeria, Vietnam, and Cuba (Washbrook 1990:484).

The nature of core dominance in the semiperiphery is similarly open to question. Washbrook characterizes nineteenth- to early-twentieth-century India as a classic semiperiphery, used as an intermediary zone to extend British influence into south and southeast Asia. However counterintuitive it may seem, British power in India was a limited and, in many ways, tenuous hybrid: "[T]he Raj was never simply an instrument of foreign domination. It was also one related to struggles inside South Asian society for status, privilege, and power. The forces contending here were not constituted by the British nor were they easily controlled by them (not least because the British never represented more than 0.03 percent of the population, including

the white army). Rather, the Raj was often to be seen struggling in an effort to contain them" (Washbrook 1990:493).

The fact that British power in south Asia was restricted by a combination of geographical distance, demography, and local resistance forced the colonizers to depend quite heavily on preexisting Indian political and economic structures (e.g., scribal, military, financial, and commercial organizations) to function. The Raj was thus, in many ways, a composite form of state machinery as much Indian as British (Washbrook 1990:490), rather than a pure expression of core dominance. Together, these problematic aspects of the semiperiphery's structure and function suggest that it is less an integral part of the world-system than a residual category for those polities that cannot be easily pigeonholed as a periphery or a core.

The most serious theoretical flaw in the world-system model lies in the fact that the assumption of core dominance denies any kind of agency to the periphery. The peoples of the periphery are treated as passive victims of the core's dynamic expansion (Nash 1981:398; Sahlins 1994:412; Schortman and Urban 1994:402; Wolf 1982:23). This misrepresentation derives directly from the explicit economic determinism of the world-system model. Wallerstein defines cultures as: "the ways in which people clothe their politico-economic interests and drives in order to express them, hide them, extend them in space and time, and preserve their memory" (Wallerstein 1980:65). Cultures (and especially the cultures of the periphery) are thus seen as economically determined entities whose structure and ideological content are the products of their being part of the core-dominated world-system (Wallerstein 1983:76).

If the core and the periphery are completely linked in an integrated world-system, if the core actually does dominate the world economy, and if the culture and sociopolitical organization of the periphery are economically determined, then the peoples of these latter areas would truly become passive victims of the expanding core.

But if one accepts these assumptions, in the modern world-system, "Europe remains the only active maker of history; its dynamic is world history. Set against this, other zones are assigned no world-significant historical roles, are seen as trapped inside world empires which constrained their development, and are deemed incapable of generating their own expansive and civilizationally transforming dynamics. This is Orientalism all over again, albeit in a form that is morally 'well meant'" (Washbrook 1990:492). Ironically, in denying agency to the colonized and peripheral cultures, "world-system theory becomes the superstructural expression of the very imperialism it despises" (Sahlins 1994:412-413).

An examination of the ethnographic and historical record clearly refutes the idea of a passive periphery, showing instead that the specific effects of external forces from the core vary widely because they are mediated differentially through local ideologies. Peripheral culture and preexisting political economy therefore play extremely important roles in determining the nature of interregional exchange.

Sahlins (1994) shows the systemic importance of indigenous cultures through a comparative study of China and Hawaii's diametrically opposed reactions to Western attempts at commercial penetration in the eighteenth and nineteenth centuries.

Although regular Western trade with China began as early as the sixteenth century, the Middle Kingdom had virtually no interest in European manufactured goods. This trade was based on England's enormous demand for tea, which could only be obtained from China.

China, on the other hand, had no demand for England's primary exports and instead preferred silver in exchange for this commodity. As a result, the terms of trade vastly favored the Chinese "periphery." This indifference toward Western trade goods stemmed both from the Chinese worldview and from the highly centralized political economy in which trade was controlled by the Manchu emperor.

The Chinese considered themselves the one civilized nation in the world and viewed the Europeans as barbarians. As part of this worldview, the Manchu emperors perceived the British trade missions not as offers of commercial relations between equal powers, but rather as the rendering of tribute by a culturally and politically inferior group.

In offering gifts to the royal court, the barbarians were "turning toward civilization" (Sahlins 1994:420). The more exotic the tribute, the better, because having a variety of unusual goods from different countries (publicly displayed in royal pavilions) provided visible proof of the emperor's mastery of the world. Once the trade missions had presented their gifts, as far as the emperor was concerned, the tribute had been rendered and the intercultural transaction complete. No additional goods of that sort were needed or even desired (until the English finally hit upon the idea of international drug trafficking in opium as a way to shift the terms of trade in their favor).

In contrast with the Chinese disdain for European goods, the chiefly elites of Hawaii had an almost insatiable craving for Western industrial products. North American merchants, with less access to silver than their English competitors, found that they could obtain tea from China in exchange for Hawaiian sandalwood (used for incense). The American traders concluded trade agreements with the Hawaiian elites in which fancy textiles,

furniture, and other Western manufactured goods were exchanged for large amounts of sandalwood. Sahlins (1990) suggests that the Hawaiian demand for Western products stemmed from a combination of ideological factors and the sociopolitical organization of the islands at the time of Western contact.

Unlike the Chinese, the Hawaiians did not view the Europeans and Americans as barbarians from the ends of the earth. Instead, the Westerners were seen as people who "came from the sky beyond the horizon; from the mythical Kahiki, the celestial and overseas homelands of the gods, sacred chiefs and cultural good things. Like the royal ancestors who brought thence foods, rites, and tabus—the means of human life and the distinctions of social order—the white men or Haole were perceived as bearers of powers civilizing and divine" (Sahlins 1994:430). As a result, the chiefly lineages of Hawaii were quite receptive to Euro-American goods and were also eager to take on many aspects of Euro-American identity, because they equated it with high status and divine grace.

The Hawaiians' desire for Western industrial goods stemmed not only from their cultural construction of Euro-Americans, but also from their sociopolitical organization at the time of contact. In contrast with China, which was at that time a highly centralized state under the control of one emperor, the Hawaiian islands were politically divided into a number of rival chiefly kin groups, all vying for wealth, status, and power.

Competition among these elite groups led to a tremendous demand for Western luxury goods: their Hawaiian possessors increased their own status relative to other lineages in a classic case of competitive emulation "between the powers that be and the powers that would-be" (Sahlins 1994:434). The Hawaiian chiefs were soon obligating themselves to supply more sandalwood than they could harvest in return for manufactured products that could be cheaply produced and supplied by the American traders. The latter were then able to convert these favorable terms of trade to their political advantage and soon dominated the Hawaiian islands.

The contrasting examples of China and Hawaii emphasize several key problems with the world-system model's universal assumption of the dominant core and its corollary of the passive periphery. First, in the case of China, the European core was unable to dominate its trading partner for nearly three centuries. Second, local ideologies and local political economy played key roles in determining the nature of interregional interaction; this is the exact reverse of the world-system model's structural logic. Also, these cases show that the periphery must be seen as an active agent whose contact with the core can vary from eager demand for trade to indifference to active resistance.

The world-system model consistently underestimates or denies altogether the importance of local resistance to core domination as a factor that structures both the political economy of the periphery and the overall shape of interregional interaction (Skocpol 1977:1080; Washbrook 1990:495–496).

Stern (1988) argues that the world-system model's assumptions of core dominance and the interregional division of labor fail to account for crucial aspects of political economy in the periphery. According to the world-system model, the interests of the core and the world market should structure the economic organization of the periphery as a coerced labor system. Stern tests these aspects of the model by examining the organization of colonial labor in the mining of silver, one of the main resources that the Europeans extracted from the Americas during the sixteenth and seventeenth centuries.

The Spaniards considered the enormously rich silver mines at Potosí, in what is now Bolivia, to be one of their most strategic assets in the New World and expended great efforts to maximize production. The colonial administration attempted to impose a labor system on the indigenous population by extending the precontact Inka mita labor *corvée*, or levy, to include work in the Potosí mines. But local resistance quickly sabotaged the mine levy and transformed it into a share system that allowed the miners to keep a percentage of the silver they extracted. "Except for a brief period, . . . the labor system is best described as a fluctuating combination of wage relations, share relations, and forced labor relations in which voluntary share relations predominated—both because such relations were the most numerically frequent and because their influence tended to 'distort' or 'twist' other labor relations in the direction of 'sharecropping'" (Stern 1988:854).

In the face of unyielding local opposition, repeated and intensive efforts by the Spanish authorities were unable to suppress share arrangements or to eliminate independent Indian marketing of silver (Stern 1988:855).

Native peoples were not the only ones whose resistance shaped the organization of production at Potosí. As Stern (1988:857–858) points out, the economic and political interests of the Spanish colonial elites quickly diverged from those of the imperial administration in the homeland. Although the crown sought to maximize silver production for export back to Spain, it was in the interests of the local elites to siphon off as much as possible to enrich themselves and to capitalize their own local ventures. To accomplish these ends (and because they had little choice), the colonial elites were willing to accommodate local Indian demands for share-labor arrangements that kept a significant portion of the silver in the colonies.

Thus, local conditions of production had central importance in defining the opportunities and constraints faced by (a) the crown, (b) the Spanish colonial elites, and (c) the Indian population. The actual organization of

mining at Potosí can only be understood by recognizing the limitations of core power and the structural role of strategies of resistance by both colonial elites and the peoples of the periphery. As a result, labor organization for the most critical economic sector of the Spanish colonies contradicts the world-system model's assumptions of core dominance and a passive periphery.

Unequal Exchange and Its Effects on the Peripheral Political Economy

Closely tied to the assumption of core dominance are the ideas that (a) relations between the core and periphery are inherently exploitative, and (b) this core-controlled, unequal exchange system structures the political economy of polities in the periphery. The classic world-system model asserts that the powerful core states exercise hegemony over the periphery and are able to extract large-scale surpluses through their control over asymmetrical terms of trade.

Drawing on a concept from dependency theory (Emmanuel 1972; Frank 1966, 1967), Wallerstein argues that "Once we get a difference in the strength of the state-machineries, we get the operation of 'unequal exchange' which is enforced by strong states on weak ones, by core states on peripheral areas" (Wallerstein 1974b:401). The interregional specialization of labor in an asymmetrical exchange system under core control is seen as the key factor that creates and maintains a dependent political economy in the periphery.

The model essentially views interregional exchange within a world-system as a "zero-sum" game in which the core's gain must be the periphery's loss (Sella 1977:31). This perspective overlooks the other two very plausible alternatives: (a) that the exchange may be mutually profitable for both polities or (b) that the periphery may be the polity that profits most if the core's demand for imports exceeds the periphery's demand for exchange goods (as in the China trade example discussed above).

As an example of unequal interregional exchange being a prime mover for social change in the periphery, Wallerstein argues that the establishment of the Baltic trade routes between the northwest European core and the eastern European periphery led to a decline of towns in the latter area and the restriction of the local peasantry to the land in what is often called "the second serfdom" in the sixteenth century (Wallerstein 1974a:95–96). But the second serfdom was well underway in eastern Europe, due to purely local factors, even before east-west trade links were established; thus one cannot invoke interregional exchange to explain the social transformation of the eastern European labor organization (Skocpol 1977:1081–1082).

The issue is not whether exchange takes place between the core and

periphery, but rather the degree to which this trade transforms the local political economy. One can only say that this kind of systemic integration has taken place when the volume of trade reaches a sufficiently high level to transform peripheral production into an export-oriented system (Goody 1971:278; Nash 1981:398).

Although it is certainly true in some cases, there is little evidence to support the idea that interregional exchange is the principal explanation for sociopolitical change in the periphery (Curtin 1984:9; Lane 1976:529). In assigning to interregional interaction the decisive transformative role, the world-system model ignores the less visible, but, in the long run, far more important endogenous changes in domestic production, investment, and consumption (Sella 1977:31).

World-Systems without World-System Assumptions?

World-system assumptions of core dominance, asymmetric exchange, and interregional trade as the determinants of peripheral political economy are problematic on theoretical grounds and contradicted by specific case studies from the European expansion. This calls into question the extent to which the model can be used to describe and explain pre- or noncapitalist systems of interregional interaction.

Recognizing many of these difficulties, Chase-Dunn and Hall have suggested a number of modifications in the world-system model in an effort to make it cross-culturally applicable to the numerous world-systems that they contend have existed over the past 10,000 years (Chase-Dunn 1992; Chase-Dunn and Hall 1991, 1993). This extension of the world-system model requires the abandonment of a number of critical assumptions in Wallerstein's formulation.

Along with Schneider (1977), Abu-Lughod (1989, 1990), Lane (1976), and many archaeologists, Chase-Dunn and Hall argue for the existence of pre- or noncapitalist world-systems. These networks are said to operate under a variety of "systems logics," that, drawing on Wolf (1982), they define as "modes of production": (a) the "kin-ordered or kinship mode," (b) the "tributary mode" (characteristic of early states), (c) the "capitalist mode," and (d) a theoretical "socialist mode" (Chase-Dunn 1992). Chase-Dunn and Hall (1993:855) argue that it is not necessary to limit the world-systems to complex societies. Instead they argue that the only cases that are not world-systems are interregional interaction networks where all groups are nomads.

Similarly, noting the variation in potential modes of interaction in the system, they argue that the core/periphery distinction and the idea of core dominance are unnecessary for a world-system. As part of rejecting the necessity for the core-periphery distinction, Chase-Dunn and Hall (1993:856, 862–863) argue that it is also unnecessary to assume the axial division of labor that associates the core with free labor and production of finished goods and the periphery with coerced labor for the extraction of staples/raw materials. They suggest that interaction between societies need not be limited to the bulk trade; instead, prestige goods exchange, regularized warfare, political symbolism, political protection, are all forms of regularized contact that can define a world-system.

After giving up these key assumptions, the only parts of Wallerstein's model retained in this reformulation are the multiple-group composition and the focus on cross-cultural interaction (of whatever sort) as a key element accounting for the development and functioning of individual societies within the world-system (Chase-Dunn and Hall 1993:855). Note that even in this revised form, external dynamics predominate: "We claim that the fundamental unit of social change is the world-system, not the society" (Chase-Dunn and Hall 1993:851).

Chase-Dunn and Hall point out many problems with the world-system model and accurately specify many of the assumptions that must be dropped in order to allow for cross-cultural analyses. But in attempting to generalize the applicability of the model while retaining its original terminology, they have eliminated its specificity as an explanatory construct and reduced the term "world-system" into little more than shorthand for "interregional interaction system." Recognizing the extent of this modification, Chase-Dunn and Hall describe their analytical framework as a world-system "perspective" meant to be used as a heuristic device for cross-cultural comparison, rather than a world-system "model" for use as an explanatory construct (Hall and Chase-Dunn 1993:121).

Overview: Problematic Aspects of World-Systems

In its original form, the three assumptions of Wallerstein's world-system model (core dominance, asymmetric exchange, and long-distance exchange as the prime mover of social change) simply do not work. Attempts to modify Wallerstein's model by relaxing most of its main assumptions are equally problematic for several reasons.

First, the construct becomes so broad and amorphous that it loses any kind of analytical power, except as a generalized philosophical outlook. Calling virtually every multigroup interaction network a "world-system" diminishes the term.

Second, even in its modified form, the world-system construct still views the external dynamic of interregional interaction as the main structuring element at both the local and macroregional levels. As a result, despite the more recent explicit recognition that peripheral polities can be important in the overall scheme of things, the modified world-system perspective continues to minimize the roles of agency and internal dynamics in these peripheries because the causes of change are always situated somewhere on the outside.

If we retain world-systems as our exclusive framework for studying interregional interaction, then we are stuck with an epistemological Hobson's choice: if we adhere to Wallerstein's original construct, then we have a model that has clear assumptions and an explicit core-dominant view of the world, but simply does not work for pre- or noncapitalist societies.

On the other hand, if we embrace the modified world-system perspective, then we have a construct that gains broad cross-cultural applicability to virtually all interregional networks everywhere, but does so by sacrificing all analytical specificity about how these systems actually work. Nowhere is this contradiction more apparent than when anthropologists attempt to apply the world-system model to the archaeological record.

3

World-Systems in Archaeology

The world-system model has been especially attractive to archaeologists because it links politics, economics, and geography into a unified framework that addresses the developmental processes of complex societies on a broad, interregional scale. In addition, the core-periphery opposition in the model injects a dynamic element that allows for the structure of the system and its constituent societies to change over time (Blanton and Feinman 1984:675).

A recent literature review lists over one hundred publications that directly or implicitly use world-system concepts in their analyses of ancient or precapitalist societies (Hall and Chase-Dunn 1993:137–143). The model certainly has explanatory power for at least some cases. But researchers have applied the world-system concept to an extremely broad range of prehistoric, precapitalist, and non-Western societies at virtually every conceivable scale and level of complexity, ranging from the relations between the Roman Empire and "barbarian" northern Europe down to small-scale Native American groups in California.

In some cases, the applications of world-systems have reached ridiculous extremes; for example, Collins states that "there is no type of society in any period of human existence in which world-system relationships do not affect its structure and dynamics" (1992:373). In other words, everything is, and always has been, part of a world-system. On a slightly more modest scale, Frank argues that there has been a single world-system for the last five thousand years (Frank and Gills 1993a,b). Although these two examples represent the extreme end of the spectrum, even in more mainstream applications, the world-system model is probably the framework most commonly used by archaeologists to describe interregional interaction in complex societies and its effect on developmental trajectories.

But how applicable is the world-system model to ancient or precapitalist

societies? Some researchers argue for an essential continuity in the structural logic of ancient and modern world-systems, allowing them to extend all the main features of Wallerstein's original formulation directly to the past (Chase-Dunn 1992:319). Others, including the majority of archaeologists, contend that it is necessary to make substantial modifications in Wallerstein's model before it can be useful in understanding ancient or precapitalist systems of interregional interaction.

"Continuationist" Models of World-System Structure

Arguments for continuity in world-system organizational principles generally rely on data from Mesopotamia or Mesoamerica (Allen 1992; Ekholm and Friedman 1982; Frank and Gills 1993a,b; Whitecotton and Pailles 1986). In an analysis of Early Dynastic Mesopotamia, Ekholm and Friedman (1982:88) argue "that there exists a form of 'capitalism' in the ancient world, that there are 'world economies,' and that many properties of the dynamics of such systems are common to our own world economy."

The emergence of complex societies is seen as coinciding with the existence of a core-periphery relationship. Centers such as the urban polities of Early Dynastic Mesopotamia (ca. 2900–2400 B.C.) are seen as nodes of advanced industrial production based on raw materials and semifinished products drawn from the periphery, which, in exchange, obtained some of the manufactures of the center.

In this view, the very existence of the core states depends on their ability to dominate the resources of the periphery (Ekholm and Friedman 1982:90). For Early Dynastic Mesopotamia, the key raw material imports are thought to have been wood, gold, silver, copper, and tin, along with such semiprecious stones as carnelian and lapis lazuli. In return, the Mesopotamian core would have exported food, textiles, and other manufactures (Crawford 1973).

Core-periphery relations in Early Dynastic Mesopotamia, and all other world-systems, are defined through the concept of capital accumulation, where capital is a type of abstract wealth represented in the concrete form of metal or other materials that can be accumulated and converted into other forms of value (Ekholm and Friedman 1982:100).

Although most Marxist theory sees imperialism as a secondary phenomenon connected with the needs of expanding capital, Ekholm and Friedman (1982:93) argue that early states are inherently imperialistic because the center accumulates capital at the expense of the periphery. This exploit-

ative relationship builds up the wealth and power of the core while restructuring the periphery into underdevelopment. Thus, for example, warfare, competition, and elite demand in the rival Sumerian states of the south Mesopotamian alluvium led to their increasing power as major exporters of manufactured goods and their control over the political economies of the periphery (Ekholm and Friedman 1982:97).

Extending Ekholm and Friedman's capital accumulation model both backward and forward in time, Allen argues that a single world-system operated in the ancient Near East for at least three thousand years, starting in the late fourth millennium B.C. with the expansion of the first Mesopotamian urbanized polities in the Uruk period into neighboring regions of Anatolia and Iran (Allen 1992:456; cf. Algaze 1989b, 1993a,b).

In Allen's view, this system continued into the second millennium B.C., where it characterized the relations between the merchants of the north Mesopotamian city-state of Assur and the Anatolian city-states with whom they traded tin and textiles for gold and silver. Our knowledge of this system comes from the site of Kanesh/Kültepe in central Anatolia, where archaeologists have recovered the economic and personal archives of an Assyrian *karum*, or trading enclave, located at the edge of the Anatolian city of Kanesh (Larsen 1976; Özgüç 1963, 1986; Veenhof 1972).

Allen applies all the key assumptions of Wallerstein's original model to the Assyrian-Anatolian trade network. He asserts that the core city of Assur in northern Mesopotamia dominated this world-system and accumulated capital at the expense of its Anatolian trading partners in the periphery by means of its monopolistic control over an asymmetric exchange system.

Although the known trade treaties between the Assyrian merchants and the kings of Anatolian polities such as Kanesh appear on the surface to be agreements between equals, Allen argues that they conceal a darker reality of Assyrian economic hegemony. Assyrian control of this "slanted playing field" is said to have structured not just interregional exchange, but also trade within Anatolia itself (Allen 1992:463–467).

Whitecotton and Pailles (1986) also argue for continuity in world-systems as part of their focus on the role of exchange in their reconstruction of prehistoric interaction between Mesoamerica and the southwestern United States.

From the middle classic period (as represented by such urban centers as Teotihuacán and Monte Albán) up through the late postclassic Aztec Empire in the early sixteenth century, Mesoamerica was a world-system bound together by the competition among core states for control of peripheries and semiperipheries to the south and north.

During its fifteen-hundred-year existence, the main feature of this system was a series of interconnected trade networks dominated by the various rival core states. Whitecotton and Pailles suggest that the Mesoamerican world-system focused on the exchange of both prestige goods and more basic commodities. Thus, the Aztecs are thought to have imported preciosities from their periphery while exporting general consumption goods (Whitecotton and Pailles 1986:188).

In this view, postclassic-period-exchange systems dominated by Mesoamerica extended far to the north, across the deserts of Sonora and Chihuahua into the southwestern United States. Although both prestige goods and basic commodities were widely traded between core states and their immediate peripheries in Mesoamerica proper, Whitecotton and Pailles argue that core exchange with the southwestern United States focused exclusively on prestige goods.

They identify as the critical preciosities Mesoamerican trade items such as macaws, copper bells, polychrome pottery, and shell artifacts, found in small amounts at Anasazi sites (e.g., Pueblo Bonito in the Chaco Canyon area of the southwestern United States). The discovery in northwest Mexico of a possible entrepôt or port of trade at Casas Grandes has been seen as evidence for a Mesoamerican controlled interregional exchange network in which this site manufactured and traded prestige goods to Southwestern elites, while procuring turquoise for the core states in the basin of Mexico (Di Peso 1974; Whitecotton and Pailles 1986). This exchange system is viewed as inherently asymmetric and controlled by the dominant Mesoamerican core:

By drawing the periphery elites into a dependency relationship (and, it might be argued, even creating periphery elites in the process), the core states are able to manipulate them, while periphery elites are powerless to manipulate core states. Once periphery elites are dependent on prestige goods (including ritual knowledge) from the core, then the core state is in a position to play peripheral elites against each other, to withhold prestige goods, and to control the value of the exchange, limited only by the activities of competitor core states. (Whitecotton and Pailles 1986:195)

It is important to note that other researchers have raised serious objections, on both theoretical and empirical grounds, to direct applications of the world-system model to the southwestern United States (e.g., Mathien 1986; McGuire 1980) and the Near East (e.g., Areshian 1990; Larsen 1976, 1987; Moorey 1987; Rothman 1993; Stein 1990, 1998; Wattenmaker 1990). But

those who posit an essential continuity in the structural logic of ancient and modern world-systems view such regions as highland Anatolia and the southwestern United States as underdeveloped peripheries dominated by urbanized core areas through their control over commodity or prestige-goods exchange networks.

These unequal terms of trade are seen as having a tremendous influence on the sociopolitical organization of the less complex societies. These models thus accept and incorporate the three basic tenets of Wallerstein's original model: core dominance, asymmetric exchange systems, and the primacy of exchange as a structuring factor in peripheral political economies.

Archaeological Modifications of the World-System Model

In contrast with the continuationist perspective, the majority of archaeologists who use the world-system model argue that the modern system operates on fundamentally different principles from ancient or precapitalist networks of interregional interaction. As a result, they have found it necessary to abandon virtually all of the major assumptions of Wallerstein's original formulation for it to have any applicability to the archaeological record.

Some of the most important critiques and modifications of the original world-system model have emerged from the work of Blanton, Feinman, and Kowalewski on the valley of Oaxaca in Mesoamerica (Blanton et al. 1981; Blanton and Feinman 1984; Blanton et al. 1992; Feinman and Nicholas 1992) and from Kohl's 1987a,b, 1989) analyses of Central Asian-Near Eastern interaction.

Blanton and his colleagues argue for the utility of a modified world-system perspective in analyzing the political economy of Mesoamerica as an entity that can only be understood on a transregional scale (Blanton and Feinman 1984:674). The world-system model can be applied to Mesoamerica if the concept is expanded to include prestige goods: "We argue that a viable world-system approach will have to include, in addition to Wallerstein's world empires and world economies, what Jane Schneider (1977) calls a precapitalist world economy based principally on exchanges of preciosities. We also suggest that Mesoamerica was an example of this kind of social system, since there . . . the flow of luxury goods was laden with political and economic meanings" (Blanton and Feinman 1984:676). Blanton and his colleagues contend that world-systems based on the exchange of

prestige goods existed in Mesoamerica in the Classic period centered on Teotihuacán in the basin of Mexico and Monte Albán in the valley of Oaxaca, in the postclassic, centered on first Tula, and later, the Aztec capital of Tenochtitlán (Blanton and Feinman 1984:678).

Exchange is seen as playing a key role as an agent of social transformation: "[A]s core states develop they must stimulate increased production of the luxury goods used to reward cadre. These heightened demands ripple outward, beyond territories conquered by the emergent cores, influencing production strategies over a broad area and thus incorporating more and more local groups into a Mesoamerican world economy" (Blanton and Feinman 1984:678). Blanton and his colleagues accept the basic Wallersteinian view of interregional trade as a powerful force in reorganizing local political economies in the periphery, although they explicitly recognize the importance of preexisting peripheral political economies as an additional factor affecting the developmental trajectories of larger systems.

The Oaxaca researchers suggest that Wallerstein's categories of core, periphery, and semiperiphery are oversimplifications. Instead, Mesoamerica was characterized by multiple competing cores and adjacent boundary zones, such as the Mixteca and Veracruz, located between the cores.

In contrast with the Wallersteinian formulation, they argue that boundaries and peripheries were as significant for Mesoamerican cultural dynamics as the core regions. In this view, core-periphery power relationships in the Mesoamerican world-system vary markedly between phases of greater and lesser hierarchy, depending on the degree of core centralization and power (Blanton et al. 1992:419–422). They modify Wallerstein's assumption of core dominance by suggesting that interregional networks can be organized according to two very different dynamics: "core strategies" and "boundary strategies."

Core strategies are essentially classic Wallersteinian core-dominant world economies with the modification of being based on prestige goods and a high development of market exchange (Blanton et al. 1992:419). During periods of greater core centralization and power, hierarchical core-periphery structures emerged in the world-system. Core strategies could develop through either centralized control over interregional exchange (as in the case of Teotihuacán) or centralized control over regional boundaries (the policy followed by Monte Albán) (Blanton et al. 1992:422).

But during periods when the core polities were weaker, boundary strategies predominated. The latter were characterized by a much more fluid or flexible core-periphery hierarchy, more permeable regional boundaries, and greater possibilities for entrepreneurial management of interregional ex-

change, rather than the core-controlled system present during periods of greater centralization. When boundary strategies predominated, peripheral areas played an extremely important role as "seed-beds for the spread of new cultural institutions" (Blanton et al. 1992:420–423).

In short, although Blanton and his colleagues utilize the world-system model's interregional perspective and focus on exchange, they modify Wallerstein's original formulation by arguing for the role of prestige-goods exchange and cyclical variation in the degree of core dominance over relations with peripheries and boundary zones.

Kohl's (1987a,b, 1989) research on relations within and between the polities of the Near East and central Asia indicates that additional major modifications of the world-system model are necessary before it can be applied to the archaeological record of precapitalist complex societies. The Wallersteinian notions of core dominance, asymmetric exchange, and trade as a prime mover in social change are often seen as inapplicable to the interregional interaction networks of the ancient world.

As in the case of Mesoamerica, the Near East and central Asia show that one cannot simply assume a general pattern of core dominance in interregional interaction. The presence in western Asia of multiple competing cores and highly variable power relations between cores and peripheries made it extremely difficult for a given center to control neighboring less complex societies: "[R]elations between ancient cores and peripheries were not structurally analogous to those which underdevelopment theorists postulate are characteristic of first-third world relationships today. Unless conquered (i.e., incorporated into a larger polity), ancient peripheries could have followed one of several options ranging from withdrawal from the exchange network to substitution of one core partner for another" (Kohl 1987a:16).

Kohl cites as an example the copper-rich region of Oman at the entrance to the Persian/Arabian Gulf. Although Oman supplied Mesopotamia with large amounts of copper during the mid-third millennium B.C., there is no evidence that Mesopotamia exercised monopolistic control over Omani raw materials or the exchange system.

Instead, the distributions of Mesopotamian and Harappan material culture in this region indicate that Oman was an independent periphery that traded extensively with both Sumer and the Indus valley. At the same time, there is no evidence for the reduction of third-millennium Oman into an underdeveloped or dependent status. Political and economic flexibility of this sort belies the notion of the periphery as a passive partner in a core-dominated world-system.

The idea of core dominance is also grounded in assumptions of techno-

logical superiority over a backward periphery. Kohl argues that, unlike Africa and the Americas in the modern world-system, the Bronze Age societies of Oman and central Asia did not necessarily suffer from a technology gap with respect to neighboring core areas.

The main militarily and economically critical technologies of the fourth and third millennia, such as metallurgy and later horse breeding, were not core monopolies. If anything, both technologies were developed first in such peripheral areas as Anatolia and central Asia and rapidly spread to the centers. The ease of transfer from one area to another precludes the idea of long-term disparities in technology as a source of core dominance in ancient west Asia.

The existence of multiple cores, easily transferable technologies, and primitive means of transportation and communication led to the emergence of a contingent and rapidly changing social landscape in which core areas could only exercise ephemeral and circumscribed control over neighboring regions. In many cases, the latter areas developed into powerful complex polities in their own right and turned the tables on the erstwhile cores. Kohl's critique of core dominance (1987a:23) suggests that Wallerstein's formulation of the world-system model is ill equipped to deal with the constantly shifting political and economic landscapes of ancient west Asia.

In its original form, the world-system model postulates economic factors, such as the axial division of labor and asymmetric exchange, as the crucial elements that define this transregional structure. However, the archaeological evidence suggests that ancient or precapitalist interregional interaction systems were essentially political in nature (Champion 1989:7).

Edens argues that political and ideological factors are at least as important as economics in structuring interregional interaction. This is seen as being especially true in traditional agrarian states, where authoritative, rather than economic, sources of power play a crucial role in determining the organization of production, exchange, and consumption. As a result, "analysis of the economic dimensions of core-periphery relations must consider the place of trade with respect to the other social forces that cut across regions, and to the political economic meaning of trade (and other mechanisms by which goods are acquired) within regions" (Edens 1992:121-122). Once one recognizes the role of social, political, and ideological factors in structuring modes of exchange, it becomes impossible to relegate peripheries to a passive status in systems of interregional interaction.

Edens's (1992) analysis of the relations between Mesopotamia and the third-millennium polities of the Persian Gulf region highlights the problematic nature of exchange in the world-system model. Using both textual and

archaeological evidence, Edens traces changing patterns of prestige-goods and commodity exchange among Mesopotamia, Dilmun (Bahrain and Failaka islands), Magan (Oman and the southeastern peninsula of Arabia), and Meluhha (the Indus valley and coastal settlements from the Makran coast of Iran to the Harappan port of Lothal in Gujarat).

The Mesopotamians imported marine shell and copper from the gulf, while exporting grain and textiles in a high volume maritime trade during the third millennium B.C. In world-system terms, the gulf would be defined as a periphery. However, it is clear that the structure of the gulf-trading network cannot be understood either solely in economic terms or solely in terms of Mesopotamian demand. Instead, local conditions in the periphery and regional politics played a critical role in the structure of interaction.

Dilmun, Magan, and Meluhha were differentially involved in trade with Mesopotamia, due to contrasts in resources, geography, demographics, and social complexity: "The requirement to trade was . . . unevenly distributed around the gulf; consequently, the effects of disengagement from, reorientation of, or general collapse of the trade would have been experienced differentially" (Edens 1992:130) throughout the system.

Thus, for example, whereas the high population density of Dilmun generated a demand for Mesopotamian grain, the inland copper-producing areas of Magan had little need for Mesopotamian bulk commodities or prestige goods. At the same time, the latter area had the option of trading with the Indus region rather than Mesopotamia with no real loss in revenue. Given this variability in the impact of interregional exchange and the role of the peripheries as active agents in the system, one can no longer accept as given the world-system model's assumption that trade is the prime mover of social change in these areas.

Edens's study of interregional interaction in the gulf also highlights a problematic aspect of the extension of the world-system model to include the exchange of prestige goods. As noted above, Whitecotton and Pailes, among others, have argued that when local elites are drawn into a prestige goods exchange system, they become dependent on the suppliers of these exotic items. This is said to create a fundamental asymmetry in terms of trade between cores and peripheries (Whitecotton and Pailes 1986:195).

In the gulf system, both core and periphery were importing prestige goods and commodities. Mesopotamia imported shell and copper as prestige goods, whereas Magan and Dilmun imported textiles as preciosities. By the criteria of the prestige goods dependency approach, the relationship between core and periphery would thus have been one of interdependence, rather than core-controlled asymmetric exchange.

The gulf case especially calls into question the extent to which elite demand for preciousities can create a lasting dependence on the supplier, as suggested in many world-system analyses of prestige-goods exchange. These approaches treat specific prestige goods as being so essential to the process of social reproduction that any interruption in their supply would cause the breakdown of the elite hierarchy whose legitimacy they uphold.

This view treats prestige goods as immutable social facts, rather than as protean cultural constructions whose value can be created, manipulated, and above all, changed. In fact, there is good evidence to suggest that constantly changing definitions of the material correlates of prestige may be one of the main strategies used by elites to maintain their status and power in the face of competitive emulation by rivals or lower ranking aspiring elites (Douglas and Isherwood 1979; Pollock 1983).

Edens uses the term "category shift" to describe these changes in the cultural definitions of prestige goods. Two important types of category shifts took place over the course of the third millennium B.C. in the gulf-exchange system. First, marine shell lost its value altogether as a high prestige raw material for the manufacture of cylinder seals, lamps, and other items used by Mesopotamian elites. Second, copper, which had been a preciousity for Mesopotamians at the beginning of the third millennium, declined in status to become an industrial commodity as the available supply of this metal increased over time (Edens 1992:125–127).

The potential for easy and rapid category shifts suggests that one area's monopoly over the raw materials used for the preciousities of another culture is an unlikely basis for core-periphery hierarchies grounded in unequal exchange. Similarly, the demonstrated cases of preciousity exchange between polities implies interdependence rather than the asymmetric relations posited in many world-system models of prestige-goods economies.

Overall, the gulf-trading network shows that the world-system model's overemphasis on such economic processes as exchange (whether of bulk commodities or preciousities) hinders our understanding of the system, because it minimizes or ignores the key roles played by politics, ideology, and agency in both the core and the periphery.

Perhaps the single most common theme running through archaeological critiques and modifications of the world-system model is that Wallerstein's formulation exaggerates the power of the core while failing to recognize the importance of the political and economic configuration of the periphery in determining the overall structure of interregional interaction (Champion 1989:7; Cusick 1998:14; Dietler 1998; Edens 1992:121; Kohl 1987a:16; McGuire 1986:244–245; Rowlands 1987:3).

The power of core areas is often overestimated because researchers tend to conflate ideology, politics, and economics, so that if evidence for one form of influence is found in the periphery, by metonymic extension, the other forms are presumed to be present as well.

This assumption is unwarranted. The examples of the spatially dependent relations between imperial China and its neighbors (Lattimore 1962:480–491) or between Rome and "barbarian" Europe (Luttwak 1976; Mann 1986:272–280) show clearly that ideological, political, military, or economic power need not be coterminous. A peripheral society can be heavily influenced by the religious or political ideology of a core area, but this need not imply that the periphery is administratively or economically subordinate. Often, the periphery may borrow symbols of prestige from the core while the two areas maintain balanced military, political, and trade relations (D'Alroy 1992:15; Schortman and Urban 1994:402, 404; Winter 1977).

The relations between the Roman Empire and the unconquered Celtic and German regions across the Rhine-Danube frontier provide an excellent example of the ways in which peripheral areas can limit the nature and extent of core dominance. After a series of disastrous military failures, the Roman Empire abandoned its attempts to conquer the tribes of west-central Europe and established a fortified border along the Rhine and Danube Rivers. Despite the existence of this militarized frontier, Romans, Celts, and Germans had extensive interaction through a spatially variable mix of raiding, barter, trade, and gift giving from A.D. 1 to 400 (Hedeager 1987; Wells 1992).

Hedeager suggests that western Europe in this period formed three distinct zones: (a) conquered Celtic complex societies that were incorporated as provinces into the Roman Empire; (b) a "buffer zone" of Celtic polities extending approximately 200 km to the north and east of the Rhine-Danube frontier; (c) a German "tribal zone" that was highly militarized, but less complex politically than the Celtic areas (Hedeager 1987:126–127).

Examination of the political economy of these three areas belies the commonly held notion of Roman dominance over its European frontier (Wells 1992:179). Although, in world-system terms, all three areas would be considered peripheries, the influence of the Roman core was different in each. The conquered Celtic provinces most closely approximate Wallerstein's view of peripheries in a "world empire." These areas were completely reorganized under Roman administrative, military, and economic control (although in periods of weakness or civil war at the center, provinces such as Belgic Gaul attempted to reassert local autonomy; see Haselgrove 1987). Across the frontier, however, a different set of relationships developed.

The most important point to emphasize is the military parity between the Roman Empire and "free" Germany. Because the Romans were unsuccessful in their attempts to conquer and hold the lands across the Rhine, they settled for a policy of maintaining a peaceful border through a combination of trade alliances with friendly Celtic or Germanic chiefs and threatened or actual retaliatory raids. In other words, one cannot say that the Roman core militarily dominated either the buffer zone immediately across the Rhine or the German tribal zone further to the northeast.

Roman interaction with the buffer zone took the form of high levels of peaceful trade in basic utilitarian goods, using Roman coinage as an exchange medium. Both textual and archaeological evidence indicate that the Romans exported large amounts of mass-produced utilitarian goods, for example, pottery, glassware, bronze jewelry and fastenings, and basalt grindstones, to Celtic settlements across the Rhine. In return, the Romans imported cattle, salted meat, leather, iron, wool, amber, slaves, wax, resin, and pitch (Wells 1992:179).

Although the volume of this trade was quite high, there is still no evidence to indicate that the Romans controlled the trade or that this trade led to a fundamental reorganization of local political economies. Thus, for example at buffer zone sites, such as Feddersen Wierde on the North Sea coast, cattle production increased in volume for sale to Roman merchants, but all other aspects of the local subsistence economy, political organization, and local cultural identity show no signs of externally influenced change during this period of heightened interaction (Wells 1992:182).

Consistent with the idea of symmetric exchange and transport costs as the primary structuring elements in this system, one can see a clear decline in the frequency of Roman trade goods with distance from the frontier and the North Sea coast. Mass-produced Roman trade goods are extremely rare or absent altogether outside the buffer zone, i.e., beyond a 200 km distance from the frontier.

In the tribal zone of "free" Germany, Roman dominance was limited to the ideological sphere. As noted above, Roman mass-produced utilitarian goods, and even the Roman monetary system, were absent in the less complex polities of the north German plain. Instead of utilitarian goods, the main evidence for interaction with the empire is in the form of Roman silver, gold, bronze, and bronze prestige goods, which are found in the Lübsow graves, a widely distributed mortuary complex thought to be the burials of the German nobility in the first to second centuries A.D. (Wells 1992:182).

Lübsow graves and Roman prestige goods of these types occur only in the tribal zone, and not in the buffer zone. We know from Tacitus, and

other written sources, that it was common policy to give diplomatic gifts (or bribes) to pro-Roman German tribal leaders in order to maintain good relations and a peaceful frontier. The Lübsow graves may well be evidence for this practice (Hedeager 1987:127). Thus, because the Romans could not exercise either military or economic influence in this part of their periphery, they were limited to the use of the ideological power of Roman prestige and thinly concealed bribes in order to negotiate the cooperation or neutrality of the powerful military elites in the tribal zone of "free" Germany.

The world-system model's use of such ideal categories as cores and peripheries along with the assumptions of core dominance and a passive periphery fail to account for the archaeological data from the two sides of the Rhine-Danube frontier. Instead of an absolute division between a dominant core and a passive periphery, the evidence suggests clinal variation or distance decay in the forms and exercise of Roman power.

In the provinces, Rome exercised administrative, military, ideological, and economic control. In the buffer zone, Rome did not have formal administrative and military control but was able to exert strong economic influence as a major trading partner (even if it did not actually control the exchange system). In the tribal zone of "free" Germany, Rome could only exercise ideological power and the payment of the functional equivalent of protection money to militarily powerful German nobles over whom the Romans had neither political nor economic control.

Problems in the Definition and Structure of Ancient World-Systems

A number of researchers examining the political economy of imperial China (Lattimore 1962:480–491; Needham 1959:502), Rome (Hedeager 1987; Luttwak 1976; Mann 1986:272–280), the Inka Empire (D'Altroy 1992:16), and Mesoamerica (Stark 1986:272) have suggested that a focus on clinal variation, a state's capacity to exert power over its neighbors, provides a more flexible and realistic view of interregional interaction than the commonly used ideal categories of cores and peripheries. The recognition that different forms of power extend differentially over the social landscape also indicates that the analytical categories of the world-system model cannot, in their present form, accurately describe the variability in relations between polities in ancient interregional interaction systems.

The problems highlighted by archaeological modifications of the world-

system model require us to ask what makes a region a periphery or a core (McGuire 1986:245). It is difficult to define a core in the first place, and, even if one can, the power of such an area is neither absolute nor uniform in time and space. We have to recognize the risks of imposing modern Western categories on ancient or non-Western societies:

[T]he centre is defined as much by the preconceptions of our own culturally determined vision of the past and other societies as by any objective set of criteria for defining it and recognizing it in the archaeological record. . . . Oppositions such as town/country, urban/provincial, civilized/uncivilized, classical/barbarian, are heavily value laden and structure many of our patterns of thought. In particular, they influence our expectations about the nature of interactions in the prehistoric and early historic world. (Champion 1989:15)

In particular, the use of core-periphery concepts assumes *a priori* a whole hierarchical structure of interaction that should more properly be demonstrated on a case-by-case basis.

Variation in Modes of Interregional Interaction

Archaeologists have been drawn to the world-system model because it stresses the role of connections between polities in explaining sociopolitical development. Certainly some networks can best be explained in world-system terms. However, this model only accounts for a small subset of the different possible modes of interregional interaction (Champion 1989:7).

For some interaction networks, Renfrew's peer-polity model may provide the most applicable analytical framework (Renfrew and Cherry 1986). This model postulates a multiplier effect arising from interaction between several polities at broadly similar levels of scale and complexity as a primary factor in sociopolitical development.

The peer-polity model differs from the world-system approach in several important ways. First, peer-polity interaction does not require an assumption of hierarchical relationships between different parts of the system; thus peripheries, dependent or otherwise, are conceptually unnecessary to the dynamics of development. Second, although unequal exchange is one possible form of interaction between polities, Renfrew's model allows for symmetric exchanges between polities of equal power. Third, peer-polity

interaction does not view exchange as the primary causal factor affecting developmental trajectories. Instead, politics and ideology structure relations between polities in the system.

Finally, by focusing on a multiplier effect operating within and between polities in the same region, the peer-polity model allows for both endogenous and exogenous dynamics of change (Renfrew and Cherry 1986:6). The peer-polity model thus differs from world-systems, not only in the kinds of societies to which it applies, but also in the fundamental dynamics of the ways that polities interact.

Santley and Alexander (1992) outline additional modes of interregional interaction, arguing that world-systems are just one subtype in a more general range of core-periphery systems. Drawing on Hassig's analysis of Aztec political economy in the late postclassic basin of Mexico (Hassig 1985), Santley and Alexander suggest that hierarchical core-periphery systems can take three (occasionally overlapping) forms: dendritic political economies, hegemonic empires, and territorial empires. These formations differ in their characteristic sets of economic interactions and the nature or degree of political control they exercise over peripheries. Dendritic political economies characterize complex societies where rural surpluses flow directly to the top-ranked center, with few exchanges taking place between centers of equal rank. Centrally based elites in dendritic systems hold a monopoly over export to peripheries, but they do not have actual political control over these areas (Santley and Alexander 1992:26).

In hegemonic empires, the core state politically conquers and dominates its periphery through the threat of armed force, rather than through the stationing of armies and provincial administrators in the subject areas. The core elites generally leave peripheral political and economic systems intact, but extract resources and processed goods from them through regularized exchanges or as tribute.

Territorial empires also expand by conquest. In this case, however, the core stations troops and administrators in the conquered peripheries, thereby integrating them into a single unified system designed to guarantee a steady flow of tribute and trade through a core-dominated exchange system (Santley and Alexander 1992:29–30). Santley and Alexander argue that world-systems are examples of territorial empires (1992:26), although one might suggest that hegemonic empires fit the general principles of Wallerstein's formulation as well.

Thus, world-systems do not apply to all networks of relations between complex polities. Renfrew's peer-polity model and the distinction among

dendritic, hegemonic, and territorial systems indicate that there exists a range of economic and political configurations that subsume world-systems as just one possible mode of interregional interaction.

Overview: Archaeological Limitations of the World-System Model

Given the long time spans necessary to see the patterning in world-systems and the need to look beyond the rise of European capitalism, anthropological archaeology is probably the academic discipline best placed to evaluate the cross-cultural applicability of the world-system model. Despite the widespread use of the world-system model, the original formulation is only applicable to a limited number of historical cases.

The archaeological analyses presented above show that virtually all the main assumptions of the world-system model must be discarded for this framework to be applicable to ancient or precapitalist societies. With the explicit rejection of core dominance, passive peripheries, asymmetric exchange, and an economic determinism postulating trade as the prime mover of sociopolitical change, the world-system model has lost virtually all its explicit theoretical content.

The attempt to redefine world-systems as a universal framework for comparative analysis has resulted in a perspective so generalized that it has become little more than shorthand for a network of complex (and sometimes not-so-complex) societies whose interaction has a major influence on developmental processes.

Despite the explicit modifications to the original model, the terminology and many implicit assumptions of Wallerstein's original formulation remain deeply entrenched in archaeological applications. For example, although there may be debate over the role of prestige goods versus commodities as the primary goods exchanged, many archaeologists implicitly accept the primacy of exchange as the key factor in the development of the periphery. Similarly, despite a growing recognition that one cannot assume core dominance as a "suprahistorical force" (Champion 1989:10), notions of core dominance, along with the implicit minimization of internal dynamics—notably, agency in the periphery—are pervasive in archaeological applications of Wallerstein's model.

The world-system model is more or less accurate as a characterization of the political economies of what Wallerstein calls "world-empires," i.e.,

territorial (and possibly hegemonic) empires and their provinces. In other words, when a single state can dominate other polities through the use or threat of armed force, it can also restructure exchange relations and the political economy of the subjugated areas to fit the interests of the dominant state.

Even in empires, the dominant state need not be the sole determinant of the organization of interregional interaction. One must take into account the structure of the preexisting local political economy and the capacity of local cultures to resist and reshape the influences of the dominant state. At the same time, even in territorial empires, it is necessary to recognize that there exists a clinal variation in the power of the imperial center, rather than a fundamental dichotomy between the dominant core and a passive periphery.

The world-system model is much less applicable and more problematic when attempting to understand either relations between polities at equivalent levels of scale, complexity, and power or the organization of what Wallerstein calls "world economies," i.e., multiplicity networks of interregional interaction.

At this point, the use of a world-system analytical framework becomes dangerously misleading because it assumes a greater amount of system cohesiveness and interdependence than may actually be the case. It is here that the world-system model's assumptions of core dominance, asymmetric exchange, and exchange as a determinant of local political economy become completely open questions.

In other words, we cannot assume that the world-system framework applies to every multiplicity network; this has to be demonstrated on a case-by-case basis. The world-systems model needs to be tested rigorously against the archaeological record. At the same time, we need to consider alternative models that do not assume *a priori* external dynamics, core dominance, and the causal primacy of long-distance interaction.

4

Alternative Frameworks

The Trade-Diaspora and Distance-Parity Models of Interaction

New Paradigms for Interaction Studies

The world-system model has serious drawbacks at several levels: (a) as a theoretical construct, (b) as a model for the development of modern European capitalism, and (c) as a cross-culturally applicable model for precapitalist societies, especially those that are primarily studied through the archaeological record. I have argued above that the world-system model deals with only part of the range of variation in the kinds of power relationships that characterize interregional interaction.

At the same time, attempts to modify the model to apply it more generally to the archaeological record have deprived the construct of its explanatory power while creating confusion because the same world-system terminology and concepts are used both by researchers who accept the original assumptions of Wallerstein's formulation and by those who have discarded them.

Given this situation, the challenge for archaeologists is to develop an alternative analytical framework that still recognizes the importance of interregional interaction to understanding the development of complex societies. Schortman and Urban's (1992) use of the term "interaction studies" for this type of research has the advantage of retaining a multipolity analytical framework while at the same time avoiding the world-system pitfall of a priori assumptions about hierarchy and structure in the relations between different regions in the network. They argue that traditional cultural ecology, diffusionism, and postprocessual approaches have not dealt well with the

problem of the developmental role of intersocietal contact and call for a new systematic paradigm for interaction studies (Schortman 1989).

What are the requirements of a paradigm that can incorporate the role of intersocietal interaction into a general analytical framework for developmental change in both individual polities and larger scale interregional systems? I suggest that any such paradigm, and the models it generates, should be based on four related basic principles.

First, it must recognize the importance of interregional interaction in the development of social complexity without automatically conceding to it the primary causal role. Second, it should focus on both the local level of the individual polity and the broader scale of the interaction network to identify the recurring organizational modalities and processes of change. Third, it should explicitly de-emphasize the systemic structure of interregional interaction networks as some kind of integrated entity. Instead, we should allow for models that emphasize organizational dynamics rather than structure. Such an approach treats the organization of interregional interaction as observed outcome of short-term decision making by multiple individuals and institutions with overlapping and often conflicting goals (e.g., Brumfiel 1992; Brumfiel and Fox 1994; Mann 1986; Stein 1994b).

This organizational flexibility allows for the roles of individual agency and multiple forms of social identity as key factors affecting political economy and developmental pathways not only in the core and the periphery, but also in the interaction between the two regions.

Finally, the paradigm should allow for a "two-track" approach that identifies the cross-culturally applicable mechanisms and processes that structure interregional interaction, while recognizing the culturally specific forms and historical trajectories that these interaction networks may take in a given group of interacting polities. The culturally unique expressions of these more general mechanisms and processes can be seen as deriving from a combination of specific ideologies, environmental context (e.g., the distribution of natural resources and the geography of transport), the history of the system, and the element of chance. This two-track focus on both general and historically contingent processes is essentially the approach suggested by Flannery (1986b:514), who draws on Mayr's work (1982:72) to suggest that archaeology, like paleontology, should incorporate broadly comparative concepts about mechanisms and processes into historical narratives in which earlier events in a historical sequence make a significant contribution to later events.

Working with this set of general principles, if we treat the three key

assumptions of the world-system model as hypotheses to be tested, rather than established facts, then it becomes possible to construct alternative models to account for the structure of interregional interaction among complex polities. To do so, we need to define the key variables that structure the organization of and control over interregional exchange and the balance of power among the constituent polities of the network. To identify these variables, we need to shift our focus from the global perspective of the world-system model to a closer examination of how interaction—especially exchange—works at the points of contact between the different constituent parts of this network.

The remainder of this chapter outlines two complementary models of interregional exchange as alternatives to the world-system model. First is the trade-diaspora model. This bottom-up perspective highlights the ways in which the different goals, power balances, and social strategies of traders and host communities affect the organization of the interregional network as a whole. I then use the variables that structure trade-diasporas to suggest a larger scale distance-parity model of variation in the relations between different polities that make up interregional exchange networks.

Trade-Diasporas and the Organization of Interregional Exchange Networks

Exchange is one of the most common and important forms of interregional interaction. Trade across cultural boundaries is risky business, requiring highly specialized skills and the ability to function within the value systems of two distinct societies (Yambert 1981:174). Direct exchange between producers and consumers can take place at the boundary between two groups. But as the network of interacting societies grows in scale and complexity, these activities increasingly become the domain of specialized intermediaries who travel between regions or take up residence in the foreign community with whom they trade.

We have already noted how the world-system model views interregional exchange as a core-controlled prime mover of sociopolitical change in peripheral economies. Although there can be no doubt of the potential importance of exchange in the development of complex societies (e.g., Adams 1974), we must allow for the role of endogenous social processes in both the core and the periphery as factors affecting the overall organization of the network.

It is also necessary to remember that cores do not always dominate interregional interaction. When one examines precapitalist or non-Western exchange networks, it becomes apparent that there is a wide range of variation in the structure of relationships among the two poles of the exchange system and the specialists who act as intermediaries between them.

One of the most useful ways to recognize this variation in the social context of interregional exchange is the concept of the trade-diaspora, developed by Abner Cohen in an effort to understand the relations between ethnically distinct enclaves of Hausa traders and their Yoruba host communities in Nigeria and neighboring regions of west Africa (Cohen, 1969, 1971; Curtin 1984).

It is important to distinguish the very specific model of a trade-diaspora from the more general notion of diasporas as transnational communities in globalization studies (e.g., Clifford 1994). Cohen defines trade-diasporas as interregional exchange networks composed of spatially dispersed specialized merchant groups that are culturally distinct, organizationally cohesive, and socially independent from their host communities while maintaining a high level of economic and social ties with related communities who define themselves in terms of the same general cultural identity (Cohen 1971:266–267).

Trade-diasporas arise in situations where culturally distinct groups are engaged in exchange under conditions where communication and transportation are difficult, and where centralized state institutions are not effective in providing either physical or economic security to participants in long-distance exchanges.

One strategy through which these difficulties can be overcome is for traders from one cohesive ethnic group to control all or most of the stages of trade in specific commodities. To do so effectively, the group must organize itself as a corporate entity capable of political action that can deal with external pressure from their host community or trading partners, ensure unified group action for common causes, and establish channels of communication and cooperation with members of the same group in other parts of the exchange network.

This is how a trade-diaspora works. Members of the trading group move into new areas, settle down in market or transport centers along major trade routes, and specialize in exchange while maintaining a separate cultural identity from their host community. The foreigners attempt to maintain a monopoly of their particular trade specialization; this allows them to function as intermediaries or cross-cultural brokers between their host community and the outside world. The shared identity among different diaspora

communities provides the framework for the communication, credit, and reliability necessary for the orderly long term functioning of the exchange system.

To allow for this ease of interaction between widely separated communities, diaspora organization is stable at the group level, but allows for substantial mobility among its members. The group has its own political organization that maintains order within the group and coordinates with other diaspora groups to maintain the diaspora's identity and economic "turf" in dealing with host communities. Often, the maintenance of this distinct political organization requires some level of judicial autonomy and mutual assistance as well.

Organizational factors alone are insufficient to hold the group together. Trade-diasporas strongly emphasize their distinctive cultural identity as well, defining themselves as a moral community that acts as a group to enforce the conformity of individual members of the group to shared values and principles. "[T]he creation of a trading diaspora requires the mobilization of a variety of types of social relationships, the utilization of different kinds of myths, beliefs, norms, values, and motives, and the employment of various types of pressure and of sanctions. These different elements that are employed in the development of the diaspora are so interdependent that they tend to be seen in terms of an integrated ideological scheme which is related to the basic problems of man, his place in society and in the universe" (Cohen 1971:276).

An ideology of this type is necessary to build and maintain the cohesion of the diaspora and its effectiveness as a trade network despite the centrifugal forces of spatial dispersion and competition from host communities or other trade-diasporas. For this reason, many of the best known trade-diasporas are closely associated with "universal" civilizations or religions such as Confucianism, Hinduism, Islam, or Judaism (Cohen 1971:277).

In these kinds of interregional exchange systems, the most cohesive diaspora groups survive and prosper; groups that lose or lack a strong unifying ideology tend to fragment, lose the trade monopoly that is their *raison d'être*, and eventually merge with their host communities (Warms 1990).

Difference is the essence of a trade-diaspora. The group defines its membership and scope of action by emphasizing its distinctive identity and exclusiveness relative to its host community. This deliberate separation is necessary to strengthen the diaspora's corporate identity; it also insures the diaspora's survival by preventing outsiders from entering the group and breaking their trade monopoly.

Although most commonly defined through an ideology of shared de-

scend or origin, diaspora identity can also be expressed through a variety of linguistic, religious, or other cultural criteria whose relative importance can shift as needed in order to maximize group distinctiveness. The group maintains the integrity of the interregional exchange network by trying to be as different as possible from its host community while at the same time emphasizing a shared cultural identity with sister diaspora communities.

In many ways the trade-diaspora's ethnicity is a deliberately invented and consciously maintained social identity such that the members of the group are culturally distinct not only from their host community, but even, on occasion, from their community of origin (as is the case with the Hausa in Yoruba communities; Cohen 1971:271).

Why do host communities allow diasporas to settle and accord them autonomy? Stranger communities are useful to local rulers for several reasons. In many agrarian or pastoral societies, exchange is viewed as a suspicious activity that is best left to outsiders or socially inferior groups within the polity (Azarya 1980). Sponsoring and taxing trade-diasporas provides an easy way for rulers in the host community to increase their own wealth without having to go through the conflict inherent in restructuring power relationships within their own community (Yambert 1981). Because the strangers of the trade-diaspora lack strong social ties with the majority of the host community, they have little choice but to be dependent on and therefore loyal to the local rulers. Thus, the social position of the diaspora is closely tied to local politics—specifically the degree of sociopolitical complexity—and the nature of factionalism or competition in the host community.

A trade-diaspora can have a wide range of possible relationships with other diaspora nodes, with its homeland, and especially with its host community. The three most important points along the continuum of diaspora-host relations are: (a) marginal status, (b) social autonomy, and (c) in the extreme case, diaspora domination over the host community.

In some cases, the rulers of the host community treat the trade-diaspora as a marginal or pariah group to be exploited at will. The foreign enclave's presence is only tolerated because of its usefulness to the host community. In these cases it is the host community that emphasizes the social separation of the diaspora group, defining the latter's autonomy more through restrictions than through rights.

This marginal status was often characteristic of Jewish trade-diasporas in medieval Europe (Curtin 1984:5), Jains in India, and merchant groups in the Fulani-controlled Islamic state of Massina in the middle Niger region during the eighteenth and nineteenth centuries (Azarya 1980). Although the Massina state reluctantly recognized the importance of exchange, it was

seen as a low status activity completely at odds with *pulaaku*, the Fulani cultural ethos. As a result, virtually all exchange activities were carried out by non-Fulani such as the Dyula, Arabs, or Moors. These groups were tolerated, but restricted in their activities and denied access to the state center at Massina (Azarya 1980:443–444).

The second form of diaspora status is that of protected autonomy within the host community. This can be gained either through the explicit granting of autonomous political status by the local rulers, as in the case of the Chinese trade-diaspora in southeast Asia, or else by what one might call a strategy of vulnerability as exemplified by the Jahaanke (Diakhanké) in west Africa.

The Chinese trade-diaspora was able to gain a high degree of autonomy in its various southeast Asian host communities by being financially useful to local ruling elites. The Chinese had been long-distance traders throughout southeast Asia for centuries, trading Chinese porcelain, cotton goods, and silk in return for pepper, nutmeg, and cinnamon. Ties to the homeland played an important role in establishing the autonomy of the overseas Chinese.

The maritime experience of Chinese long-distance merchants and their monopoly on access to Chinese ports and goods were powerful incentives to local elites in Thailand, Indonesia, and the Philippines to extend them numerous trading monopolies, tax concessions, and exemptions from corvée labor. The Chinese traders usually occupied special quarters set aside for them by the local rulers. In return, the Chinese diaspora provided local rulers with exotic prestige goods and other economic benefits of exchange such as customs taxes and loans when needed (Yambert 1981:180).

Chinese diaspora groups forged close alliances with the local rulers, and played key roles in the financial and administrative hierarchies of their host polities as tax farmers or other state officials. This client-community status benefited the Chinese, who were able to occupy a profitable, protected socioeconomic niche. At the same time, the local rulers gained new sources of income and a group of subordinates whose dependence insured their loyalty (Yambert 1981:181). In short, trade-diasporas such as the Chinese gained autonomy through the commercial advantages accrued from their close ties to the mainland, coupled with a strategy of political alliances with powerful local patrons.

By contrast, in strategies of vulnerability, the diaspora actively avoids alliances with local elites. Instead, the foreign enclave emphasizes its social distinctiveness and nonthreatening status by limiting its sphere of social action to exchange activities and nothing else. The diaspora survives by

following a policy of neutrality in the face of factionalism and competition in the host community.

The Jahaanke trade-diaspora in the Senegambia region of seventeenth- and eighteenth-century west Africa provides a good example of this social strategy (Curtin 1971, 1984:5). Although the Jahaanke defined their identity through common culture, language, tradition, and a sense of solidarity with other Jahaanke communities, there is no evidence that this group was ever a political entity. Their villages were independent of each other and were more or less independent from local political authorities.

Lacking political power of their own or a tie to a strong state in their homeland, they were completely at the mercy of their host communities. To gain protection and autonomy in these conditions, the Jahaanke emphasized their cultural distinctiveness as a separate group through “a combination of pacifism, avoidance of political power and worldly rule, devotion to Islamic teachings as a profession, and a similar devotion to commerce” (Curtin 1971:229).

This explicitly neutral stance provided the Jahaanke with a tremendous commercial advantage in the unstable political conditions of the areas involved in the Senegambia multipolity trade network for a period of almost three centuries. By removing themselves from the political sphere, they were able to move freely between hostile polities and trade successfully in gold and salt without being subject to harassment or attack. If their neutral status was ever threatened, the Jahaanke simply relocated to safer areas. This arrangement benefited all parties concerned; the autonomy gained through this strategy of vulnerability allowed the Jahaanke to trade freely over vast distances of up to one thousand kilometers.

At the extreme end of the range of variation in the organization of inter-regional exchange is the fairly unusual situation where the trade-diaspora actually controls its host community. The classic examples of this are the European trading post empires in Africa and Asia in the eighteenth and nineteenth centuries.

This third possibility represents the form of trade-diaspora implicit in world-system models. The European trade-diasporas established mercantile enclaves under their own military control while also using force to control the terms of trade with their host communities. This aggressive strategy was so successful that by the beginning of the nineteenth century the English in India and the Dutch in Indonesia had effectively transformed their militarized trade-diasporas into actual territorial empires (Curtin 1984:5).

There is also a wide range of possible relationships among different

nodes in the trade-diaspora and between the diaspora and its homeland. One cannot assume that a foreign trading enclave represents a unified political entity controlled by its homeland/metropolis. For example, the Greek colonies in the Mediterranean, Aegean, and Black Seas during the later first millennium B.C. retained certain ideological ties with their mother cities, but were not necessarily dominated by them. At the same time, ties between colonies were weak or nonexistent, except in the broadest sense of a shared cultural identity.

At the other end of the spectrum, diaspora nodes may be closely linked politically, as was the case in the Portuguese Estado da India, where the viceroy in Goa ruled over secondary diaspora nodes or colonies in Mozambique, Malacca, and Macao.

Given the extent of this variability in diaspora organization, and the degree to which it depends on the sociopolitical structure of the host communities, it should come as no surprise that trade-diasporas do not remain static over time. Curtin points out that one of the most striking characteristics of trade-diasporas is their tendency to work themselves out of business.

Diasporas come into being because the differences between cultures in an interregional exchange network require the services of mediators. However, these middlemen become victims of their own success; extended periods of mediation can reduce cross-cultural differences and hence the need for cross-cultural brokers (Curtin 1984:3). When this happens, the diaspora loses its distinctive status as members of the host community take over the foreigners' position in the exchange network.

At this point, several things can happen. In one common pattern, the trade-diaspora can leave the host community and return to its homeland if the cultural ties between the two communities have remained strong enough over time. This outcome was typical of medieval European trade-diasporas, such as those connected with the Hanseatic league. These formal commercial enclaves were withdrawn from their host communities in such places as London by the end of the sixteenth century, as English merchants took over the trade. In a variation of this out-migration pattern, the trade-diaspora may simply be expelled (regardless of whether they return to their ancestral home), as were the Indians from Uganda or the Jews from Spain.

In a second pattern, the trade-diaspora may remain in the host community, but its members find new socioeconomic roles and remain as an ethnic minority. The classic example of this second pattern is the evolution of the Chinese trade-diaspora in southeast Asia from a protected community closely involved in international trade and local administration into a series of ethnic minorities involved in local exchange and manufacturing (Yambert

1981). In the third pattern, with the loss of its distinctive economic role, the trade-diaspora can slowly disintegrate as a distinctive social group and be absorbed or assimilated into the host community (Warms 1990).

The trade-diaspora concept thus provides a framework that allows for a tremendous range of variation in the organization of interregional interaction, in the strategies pursued by foreign trading enclaves and host elites, and in the developmental trajectories of these networks. Once we recognize that these different possibilities exist, how do we link them to specific historical or archaeological cases? From the examples discussed above, different forms of power configurations—within and between homelands, enclaves, and host communities—appear to have an influence on the relationship between a trade-diaspora and its host community.

The military, political, and economic power of the trade-diaspora or its parent community plays a key role in structuring interregional reaction. This is, of course, most clearly evident in the dominance of the militarized European trade-diasporas over their Asian and African host communities in the eighteenth and nineteenth centuries. By contrast, when the homeland polity is either weak (as in the case of many Greek colonies) or nonexistent (as in the case of the Jahaanke), there is far more room for negotiation between hosts and diasporas in the organization of interaction within the network.

One of the best examples of the complexities and fluidity of economic and political power balances between a trade-diaspora and indigenous host polities is White's analysis of the French Canadian relations with the Native Americans of the pays d'en haut—the lands beyond Huronia in the Great Lakes region of North America (White 1991). Contrary to the traditional view of the Europeans as a dominant colonial power, White shows that French control of Canada can only be understood by seeing the political economy of the fur trade as "the Middle Ground," an arena where the French were compelled to adapt their policies to Native American political rivalries and cultural logics.

Because the French were so few and so far from home, they were never able to exercise overwhelming military force as an instrument of policy. Instead, they could only gain access to the fur trade through their role as mediators in local disputes combined with extensive gift-giving to indigenous leaders. Hence, this relatively weak trade-diaspora was only able to function through alliance with its host community, because it was unable to dominate it by force.

In other words, the diaspora and the homeland do not exercise their power in a vacuum. Although minimized in the world-system model, the

military, political, and economic power of the host community (i.e., the periphery) plays a vital role in the configuration of the diaspora community and its broader role in the interregional exchange network.

Powerful centralized polities can dictate the degree of autonomy of the trade-diaspora and the extent to which it can interact with its host society. Here it is important to remember that the host polities are not homogeneous entities, but rather comprise different factions or interest groups. In relatively weak polities, local elites wishing to bolster their own power may grant a high degree of autonomy to trading diasporas in order to build up their own wealth while gaining a loyal, dependent client group outside the traditional local social order as a counterbalance to potential local rivals.

Curtin suggests that when the local elites in the host community can dominate the alien enclave, there will be weak links between diaspora nodes; when local rulers are weak, trade-diasporas can maintain strong links between nodes and with their homeland (Curtin 1984:7). Powerful host polities can marginalize the trade-diaspora if they perceive it to be a threat to the ruling elite's economic or ideological base (as in the case of the Fulani state of Massina).

Alternatively, when a powerful host state plays a positive role in setting the terms of trade through effective administration of transportation, currency, and public order, this can lead to the breakdown of diaspora autonomy, its integration into the society as a whole, its identification with the center, and the removal of its stranger status (Azarya 1980:445).

A final critical aspect of power relationships in trade-diasporas concerns control over routes of movement and communication, access to trade goods and thus the terms of trade. As noted earlier, diasporas often attempt to gain a vertical monopoly over as many different stages as possible in the movement of trade goods between regions. They are able to do this most effectively when communication and transportation between polities are unreliable or dangerous. Under these conditions, the culturally defined economic linkages between different diaspora nodes give the foreign traders a competitive advantage in dealing with their host communities.

This stands in marked contrast to the world-system model's emphasis on core control over the production of finished goods and its monopoly over maritime trade as the basis for its domination over peripheries. Clearly, however, this is only one of several possible power relationships based on access and communication. When core control is less than absolute, the politics of access can give rise to different relations between the diaspora and its hosts.

One of the best examples of this is the way that, even without the active

support of their homeland, Chinese merchants were able to use their monopoly of access to ports in mainland China as a way to negotiate an autonomous status in their southeast Asian host communities.

This is a game that the local communities can play as well. Thus in the trans-Sahara caravan trade, the Sudanic host communities were able to maintain some degree of control in their dealings with the Arab caravan merchants by keeping secret the locations of the gold mines whose output was essential to the trade (Austen 1978:7). As these examples illustrate, the organization of an exchange system depends on the balance of power among the host community, the trade-diaspora, and the diaspora's parent community or homeland.

Power and Its Limits in Interregional Interaction

What factors structure the balance of power among the homelands, foreign enclaves, and host communities in an interregional exchange network? Following Mann, we can define power as "the ability to pursue and attain goals through mastery of one's environment" (Mann 1986:6). Power is a generalized means for achieving ends, rather than a resource. Resources are the media through which power is exercised (Mann 1986). Thus, although power is a very abstract, volatile, and fluid phenomenon, it can be studied through an analysis of its sources, media, and effects.

Mann suggests (1986:2) that there are four overlapping sources of social power: ideological, economic, military, and political relationships. Our concern here will be on the logistics of exercising and projecting power in economic, military, and political relationships across space in the different parts of an interregional exchange system.

In contrast with the world-system view of power as a unitary, essentially economic phenomenon exercised only by core areas, the approach taken here focuses on cores, peripheries, and trade-diasporas as three distinct organizational foci, each of which can exercise differing forms and degrees of power. The combined outcome of these intersecting and conflicting uses of power forms the observed patterning that we call an interregional exchange network.

A number of environmental and social factors facilitate or limit the exercise of power in economic, political, and military relationships. The distribution of natural resources is a fundamental factor in economic power, whether the resources are agricultural land, pasture, forests, mineral wealth, or

control over critical communications routes such as mountain passes, rivers, or harbors. Resource differentials between regions are often (although not always) a key impetus to the development of exchange systems. However, the mere fact that a region may have a resource that other regions want does not, in and of itself, mean that the producing region will be able to exercise a dominant role in an exchange system. If multiple sources of raw materials or finished products exist, then the consuming polity has a range of choices that free it from dependence on a single supplier.

A second critical factor in the interregional balance of power is the demographic composition of the different polities. Large populations generate high levels of demand for resources. This translates into intensified local production and higher levels of exchange. Populous polities are often characterized by higher levels of regional integration and sociocultural complexity relative to more sparsely populated areas. Finally, large populations can field larger military forces if necessary.

Overall, a large population can wield significantly greater economic, political, and coercive power than less populous regions. At the same time, demographic advantages can be offset by disease (e.g., Cook 1981; Crosby 1986; Dobyns 1983; Ramenofsky 1987). Thus, the endemic diseases of west Africa limited European colonial penetration for several centuries in a barrier so effective that the Guinea Coast was widely known as "the White Man's Grave." This disease-based power balance lasted until the Europeans developed techniques for the mass production of quinine and effective protocols for its use as malaria prophylaxis (Headrick 1981).

Available technology forms a third important factor in the balance of power between regions in an interregional exchange system. Technological advantages were certainly crucial in the nineteenth-century colonial expansion of Europe into Africa and Asia (Headrick 1981). Technology comprises not just the physical tools and techniques used to manipulate or transform matter, information, and energy, but also the organizational structure through which these processes take place.

As such, technology, especially its organizational component, is deeply embedded in culture (Lechtman 1977; Pfaffenberger 1992). Interregional differences in productive technology can give one region a competitive advantage by allowing it to manufacture goods or raise crops more cheaply or efficiently than its neighbors. Differences in military technology can allow a region with a better armed, better organized force to dominate neighboring areas. Differences in transportation technology can translate into power disparities if one polity can move trade goods or troops more cheaply, quickly, or efficiently than its neighbors.

Although, as Kohl (1987a, 1989) has pointed out, technology appears to have been easily transferable between different regions in the ancient world, the most mobile aspects would appear to have been tools and techniques, rather than organizational forms. Because the latter are so embedded in cultural value systems, they are often difficult to assimilate into the preexisting social and cultural schemata of the borrowing polity.

Thus, for example, the different historical trajectories of nineteenth-century Japan and China can be traced to the fact that, while both imported the material forms of European technology, only the Japanese instituted the organizational changes that were necessary for these military and industrial technologies to function effectively. As a result, even if the material aspects of a given technology are shared by two regions, differences in the organizational contexts of those technologies can perpetuate power imbalances.

Sociopolitical organization forms the fourth main factor contributing to the interregional balance of power. Complex, stratified, and highly integrated societies can mobilize and deploy resources at a larger scale and for longer periods of time than less centralized polities. This does not mean that more complex polities are inevitably more powerful than their less complex neighbors. A number of structural and cultural factors can mitigate the advantages of complexity. The high levels of integration and specialization in complex, stratified polities make them more vulnerable to any perturbation that destroys or damages a critical part of the system (Adams 1978; Flannery 1972). Similarly, factionalism can weaken or constrain the power of even highly complex polities.

Together, resource distribution, demography, technology, and sociopolitical organization form the main bases for power disparities among polities in an interregional interaction network. It is one thing to wield great military, political, or economic power at home, but it is quite another matter to project this power across space to influence or dominate another polity.

A number of factors limit the exercise of power in interregional interaction. Some of these have already been mentioned above. Multiple supply sources can eliminate the competitive advantage enjoyed by a region that has a resource desired by other polities in the network. Endemic disease can nullify the demographic power of a populous polity. Technological advantages may evaporate due to the ease with which tools, techniques, and even organizational structures can be transferred from one region to another. The tremendous economic and military power that can be mobilized by highly complex polities is often offset by either factionalism or the vulnerability of these "hypercoherent" systems (Flannery 1972) to the destruction of structurally critical subsystems.

But the single major limit on the ability of a complex core polity to exercise power over other regions is the cost of transportation, or what Bairoch has called "the tyranny of distance" (Bairoch 1988:11). Transportation costs have a tremendous effect on the content, volume, and organization of exchange. These costs are structured by a combination of interrelated variables including transportation technology, distance, environmentally determined conditions of accessibility, the weight/bulk of the freight, and the costs of protection against armed violence (Drennan 1984; Hassig 1985; Lane 1966).

These factors define the amount of time needed to get from one place to another and the amount of freight that can be carried. The distance between two regions is a fixed variable, as are environmentally determined conditions of accessibility such as rivers, seas, mountain passes, or swamps. The time and cost needed to surmount these obstacles depend on the available technologies of transport.

Foot transport is the simplest of these technologies. It is estimated that an average person can transport 35–40 kg of freight over a distance of 30 to 35 km a day (or 1.1–1.3 m.t.-km a day). A person requires about one kg of food per day. When the return trip is taken into account, a person needs one kg of food for every 17 km of distance covered in transporting agricultural goods. This implies that over a distance of 300 km, half of the food being carried would be consumed in transportation costs alone. In 600 km, the entire cargo would be consumed. To some extent one could compensate for this by exchanging some of the goods being transported for food along the way, but this reduction would be nullified by other costs along the way such as costs of organization, nonfood needs of the transporter, or periods of inactivity en route (Bairoch 1988:11–12). Drennan gives a closely comparable upper limit of 275 km as the maximum cost-effective distance for the transport of staples by human portage (Drennan 1984:107).

Although the use of transport animals reduces these costs to some extent, transportation costs remain relatively high because the freight capacity is still limited, and human drivers are still required. A horse can carry 90–150 kg per day over a distance of 20 to 40 km, depending on the terrain; this averages to 3–5 m.t.-km per day. When the horse is yoked to wheeled transportation, its transport capacity increases somewhat to 4–7 m.t.-km per day. As the transport capacity increases, costs go down. Expressed in grain equivalents, the transportation cost per m.t. is 8.8 kg of grain for human portage, 4.8 kg for animal portage, and 3.9 kg for transportation by cart (Bairoch 1988:12).

The costs for riverine transport are significantly lower than any of the

three forms of land transport. Drennan calculates these costs in terms of the food energy (calories) expended to move 1 m.t. a distance of 1 km. The energy cost of downstream riverine transportation by boat is only 449 cal./ton-km. Upstream transportation is much more difficult, requiring 899 cal./ton-km (Drennan 1984:table 2).

By contrast, the cost of human portage overland is 3,214 cal./ton-km. The availability of more energy efficient animal or wheeled transport would extend the range of feasible land conveyance for staples. But, as noted above, these transport costs would still remain quite high, especially relative to transportation by river boat or ship. Thus, for example, Roman imperial-pricing edicts suggest that a wagon load of wheat would double in price when transported 300 mi., and that moving grain by ship from one end of the Mediterranean to the other cost less than transporting it 75 mi. by animal cart (Finley 1985:126).

Under preindustrial conditions, transport costs structure the organization of exchange and tribute so that the predominant exchange goods shift from bulk to luxury items once a certain distance threshold is reached. Based on transport costs, Drennan argues that for Mesoamerica, at least, overland transport of staples such as maize was limited to relatively short distances around consuming centers such as Tenochtitlán; long-distance trade and tribute would have been limited to luxury goods such as cacao, turquoise, shell, copper, gold, and especially textiles due to their high ratio of value relative to weight or bulk (Cowgill 1993; Drennan 1984).

Mesoamerica is to some extent an unusual case because the absence of domesticated pack animals required that all transportation be carried out by human muscle power, either as overland bearers or as paddlers in riverine transportation. However, even in Andean America, where llamas provided efficient animal traction, Inka tributary systems show the same shift from the mobilization of bulk food items (staple finance) in subject areas close to the capital toward the use of luxury or prestige goods (wealth finance) in more distant subject areas (D'Altroy and Earle 1985). Maritime transport provides the only real exception to this principle. Sea transport by sail permitted the shipment of fairly large volumes of bulk goods, including grain and copper over long distances in the Mesopotamian Persian Gulf trade (e.g., Edens 1992). However, in all other cases the high transport costs for bulk items generally limited long-distance transportation by land or river routes (especially upstream) to relatively small volumes of high value goods (Cipolla 1967:57).

It is important to note that this distance-related shift from large volumes of bulk goods to small volumes of high value goods is connected not just with

trade, but with broader aspects of political economy too, as can be seen in the spatial variation in Aztec and Inka tribute. Transportation costs limit not only the movement of goods but of people as well, whether those people are traders, administrators, soldiers, or colonists. This is especially true for military forces. The large armies of early empires such as those of Sargon or Alexander faced tremendous logistical difficulties in long-distance campaigns. These forces were composed of soldiers who carried up to 30 kg of supplies, including rations for no more than three days, on marches of no more than 20 to 30 km a day (Mann 1986:138–139). Given the difficulties of supply, they were forced to forage from the surrounding countryside. The larger the army, the slower its progress when on the march.

These logistical difficulties made it extremely difficult to field a large force over great distances, let alone sustain such a force on long-term campaigns far from home. For this reason, the warfare of early empires such as Sargon's was generally organized as periodic campaigns, rather than the establishment of permanent military outposts. Due to the difficulties of maintaining such outposts, early empires relied more on intimidation (through the threat of renewed raids) or the help of local allies to insure that conquered peoples remained conquered and continued to pay tribute. In all these cases, what we are seeing is the quest for ways to impose political control without having to resort to the expense and logistical difficulties involved in the large-scale movement of military forces. The "tyranny of distance" thus acted as a limiting factor on the exercise of economic, political, and military power in interregional interaction, for even the most powerful of ancient core states.

The relationship between power and distance in interregional interaction can be seen clearly in two cases of failed efforts at colonial expansion. The world-system model implicitly assumes that core areas successfully exercise hegemony over peripheries due to their ability to project their power across large distances, through a combination of advanced technology and superior organization. This assumption, however, fails to take into account the levelling effects of distance.

In an insightful analysis of two unsuccessful Medieval European colonial enterprises—the Crusades (ca. A.D. 1099–1300) and the Norse Vinland settlement in Newfoundland (ca. A.D. 1000)—Crosby (1986) argues that these efforts failed for two reasons. First, the colonists had no real technological advantage over the local people. In the case of the Vinland colony, Crosby notes that when one compares the effect on impact of a Norse iron-tipped arrow with that of a Native American chipped-stone arrowhead, it is the proverbial distinction without a difference. By the same token, the mili-

tary technologies of the Crusaders and their Saracen foes were quite evenly matched; if anything, the Muslims held the advantage with materials such as Damascus steel.

Second, Crosby suggests that, in the absence of a clear technological advantage, distance can work as a great equalizer. Simply put, power decays with distance. The distances from the homeland to the colonized area were so great that neither the Norse nor the Crusaders were ever able to bring to bear enough military force to establish themselves among the locals: "It is widely believed that interference and opposition from native peoples caused the failure of the Vinland colonization effort, with native peoples having gained the upper hand by virtue of their larger populations, the tenuous Norse lines of support, the relative equivalence of offensive weapons on both sides, and the natives' superior homeland knowledge and survival skills" (Fitzhugh 1985b:28).

Initially, the Crusaders succeeded in establishing the Latin Kingdom of Jerusalem due to a combination of generous support from the European homeland and factionalism among the local Muslim states. However, in the longer term, the Crusader states were never able to become self-sustaining. Because the Frankish invaders refused to form long-lasting alliances with local Muslim polities or even with eastern Christian groups, they could only survive through the continuous infusion of European reinforcements and financial support. This required not only ideological commitment, but also a struggle against tremendous logistical barriers. European nautical technology was never sufficiently developed to transport large armies to the Levant and keep them supplied. It is highly significant that large Crusader armies had to march overland, usually suffering tremendous losses, on the way to the Holy Land.

Crosby argues that the inadequacy of European transport discouraged the kinds of mass migration from western Europe that would have been necessary in order to sustain the Crusader states and insure their viability. By one estimate, Latins never accounted for more than 20% of the population in the Crusader states (Crosby 1986:60–61). As a result, the Crusaders were always a besieged minority that was never able to offset the numerical advantage of the populous local Muslim states. The combination of distance, inadequate technology, insufficient population, and waning ideological commitment proved fatal. After an initial surge, European support diminished and finally ended, so that the Crusader states progressively weakened and eventually collapsed in the face of counterattacks by the local Muslim forces under Nur ad-Din, Saladin, and later Baibars. In terms of our broader argument, the fates of the Norse and Crusader colonization efforts show that the

potential for power asymmetries assumed by world-system theory is constrained by the roles of technology and distance in interregional interaction.

The Distance-Parity Model of Interregional Interaction

If we discount the world-system model's assumptions of core dominance, asymmetric exchange, and trade as a prime mover, we can use the variables of power and distance in an alternative model of interregional interaction. In this model, the emergence of a dependency relationship is something to be demonstrated, and not simply assumed in advance. This distance-parity model suggests that the core's ability to exercise hegemonic power decays with distance, thereby leading to increasing parity or symmetry in economic and political relations with increasingly distant peripheries. Under these conditions, core-periphery interaction is expected to be limited in scale and influence such that the peripheral political economies do not necessarily develop the specialized dependency relations predicted by the world-system model. Economic compartmentalization and the lack of fungibility or interchangeability (Adams 1974) between different spheres of economic activity would tend to limit the degree to which small-scale elite exchanges of luxury goods could have transformed entire economic systems in the periphery (fig. 4.1).

The critical variables that structure variability in the organization of interregional exchange systems are primarily the effects of distance on transport costs for both military force and trade goods (Drennan 1984; Hassig 1985). At a secondary level, (a) the degree of difference between regions in access to military, productive, and transport technology (Kohl 1987, 1989); and (b) demographic/ecological conditions such as population size, differential resource distributions, and the nature of endemic diseases in each region (Crosby 1986; Fitzhugh 1985a) also structure the balance of power in interregional interaction. These variables can be combined into the following distance-parity model. Under conditions of technological and demographic parity between two regions at different levels of sociocultural complexity, the power of the more developed ("core") region to control its "periphery" will decay with distance, leading to the following:

1. A decline in core control over interregional exchange, causing a shift from asymmetric to increasingly symmetric conditions of exchange between the two areas.

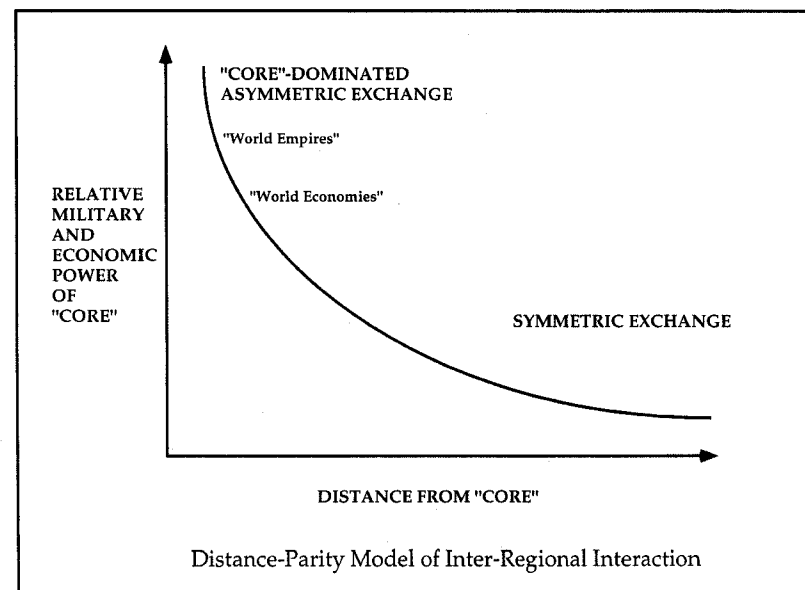


Figure 4.1. Core power, distance, and political economy in the distance-parity model.

2. A progressive reduction in the importance of long-distance exchange relative to local exchange and subsistence production in the political economy of the periphery.
3. A progressive reduction in the exchange of bulk goods relative to the proportion of prestige goods due to the latter's high ratio of value to bulk/weight.
4. A progressive reduction in economic pressures/incentives toward the specialized production of surplus craft or subsistence goods for export.
5. A progressive restriction of core influence to peripheral elites, rather than the peripheral population as a whole.
6. Increasing restriction of the ability of the core to use its military, economic, and political influence in the periphery. Schortman and Urban (1994:402) have pointed out that these different forms of power need not have coterminous distributions in space. We can therefore suggest that the core's ideological power will be less subject to this distance-decay function because it has the highest ratio of "value" to

bulk/weight. But the presence in peripheries of core ideologies and prestige goods will increasingly be subject to appropriation and transformation into the local cultural idiom (e.g., Moorey 1987; Thomas 1991). As a result, the presence of core-produced prestige goods in these areas need not imply core dominance over local elites in the periphery.

7. A progressive decline in the degree to which interregional interaction affects the organization and development of political systems in the periphery.

The degree of core dominance, the extent of core control over the exchange system, and the degree to which interregional exchange structures peripheral polities are all highly variable. Under conditions of technological/demographic superiority or ease of access between two areas of differential social complexity, asymmetric core-periphery systems can develop along exactly the lines specified by Wallerstein in the world-system model. Thus, empires as generally defined (e.g., Sinopoli 1994) often have modes of interregional interaction that correspond closely to Wallerstein's world-empire type of world-system. Trade-diasporas in such networks would be expected to dominate their host communities. However, when these conditions are not obtained, then we would expect to see increasing parity with distance in core-periphery relations. Under the latter set of conditions, we would expect to see exchange systems organized through autonomous trade-diasporas.

The distance-parity model, then, sees interregional interaction as a continuum where the balance of power is subject to the constraints of transport costs and technological parity. In this model, we would expect variation in power and exchange relationships, not just between different interaction networks, but also between different parts of the same network. When the primary form of interaction is exchange, we can use the trade-diaspora concept to describe the different configurations of economic and political relations among homelands, traders, and host communities in different parts of the network. Under conditions of technological parity, relations among polities at different levels of complexity and the diasporas that link them would show a trend from power asymmetries between close neighbors toward progressively more symmetric interaction with increasing distance from the more developed core states.

5

Testing the Models

Forms of Interaction and Their Archaeological Correlates

The world-system and distance-parity/trade-diaspora models represent two markedly different perspectives on the organization of interregional interaction. To determine which of these approaches provides a more accurate reconstruction of ancient interaction networks, we have to specify the archaeological correlates of each and test these expectations against the material record of interregional contact. We must be able to identify three aspects of interregional interaction in the archaeological record: (a) the specific processes of interaction; (b) the organization of interaction at the local level—how are goods exchanged, who controls the exchange, and is the exchange conducted by local traders or trade-diasporas/colonies?—and (c) the political economy of interaction at the regional level.

In examining the political economy of interaction, several questions predominate. What are the relations among the different polities? Is this a core-dominated world-system, a spatially variable network defined by distance-parity relations, or some other interactional form? How do these relations affect the developmental trajectories of individual polities and of the network as a whole?

Ideally, these aspects of contact should be studied comparatively in as many as possible of the interacting polities. It is particularly important to identify both flows and counterflows to discover the degree of symmetry in interaction and nodes of military, political, or economic power within the network.

Processes of Interaction

Interregional interaction can take a variety of forms in which people, information, or physical materials move across social boundaries. Regularized warfare or conquest can be considered one form of interregional interaction with clear effects on boundaries, channels of communication, and the political economies of the various social groups in the network (Chase-Dunn and Hall 1993:859). These effects will obviously differ from more peaceful forms of contact.

Regularized warfare should be relatively easy to identify in the archaeological record through the presence of defenses, violent destruction levels at various sites, mortuary data showing high incidences of warfare-related traumas, shifts in settlement location toward more defensible locales, weaponry, artistic representations of warfare, or inscriptions.

A second common form of interaction is emulation (e.g., Joyce 1993; Wells 1992; Winter 1977), a process of social-identity negotiation in which one group attempts to raise or reinforce its own status by adopting the behavioral, material, or ideological attributes of another group of equal or higher status. Emulation can take place within a society when lower ranked groups adopt markers of local elite status (e.g., Pollock 1983). Often, however, local elites in one area emulate the elites of other, higher status polities as a way to redefine or reinforce their status relative to competitors or lower ranked groups in their own society (e.g., Flannery 1968; Joyce 1993; Wells 1992).

This second form of emulation underlies prestige-goods economies (e.g., Brown et al. 1990) but is not limited to the actual acquisition of foreign goods. Cross-cultural emulation can also occur through the copying in local media of foreign prestige markers (Marcus 1990a,b; Winter 1977). Cross-cultural emulation often involves transformations of meaning, so that the same item of material culture may have completely different meanings in its place of origin and in the emulating society (Sahlins 1990; Thomas 1991). Finally, it is important to remember that cross-cultural emulation cannot be taken as evidence for the subordination of one society to another, because ideological, political, economic, and military power do not necessarily coincide (Schortman and Urban 1994:402).

Archaeological evidence for cross-cultural emulation would consist of local imitations of the architecture, iconography, and material culture associated with foreign elites. For portable items of material culture, one

might also find genuine imported prestige goods as well. These borrowings should be associated with the public buildings, residences, or burials of local elites.

One would expect to see differences between local elites and commoners in the distribution of foreign or foreign-inspired material culture. Local elites would be expected to emulate foreign styles in those items of material culture associated with the highly visible public identity (e.g., architecture, personal ornamentation, clothing, or food serving and consumption), while continuing to use local styles of material culture in nonpublic contexts (such as domestic activities, food preparation, child rearing, or subsistence). Commoners, on the other hand, would be expected to retain the full range of local material culture for use in both public contexts and in more circumscribed social spheres.

The third and probably most common form of cross-cultural interaction is exchange. Although exchange can play an important part in emulation, the two processes are not the same. As noted above, emulation can take place through imitation in local media, rather than the actual movement of goods. Similarly, exchange goods need not be restricted to high prestige status markers; raw materials, foodstuffs, and other commodities are often traded across cultural boundaries, as in the copper and cereal trade carried out between Mesopotamia and the early Bronze Age polities around the Persian Gulf (Edens 1992).

Exchange can be identified archaeologically in several ways. In a few fortunate instances, textual records document exchange activities, as was the case for Mesopotamian trade in the Akkadian Empire (Foster 1977) and in the Assyrian trading colonies (Larsen 1987). Written evidence is particularly important for those perishable goods whose role in exchange would otherwise remain completely unknown (Crawford 1973).

More often, however, the presence of goods made from exotic raw materials provides the main evidence for exchange, even if the actual source remains unknown. Thus the lack of copper resources in Mesopotamia means that all copper in that area was obtained through trade, even though we cannot as yet determine the specific source areas in Anatolia, the Zagros Mountains, and Oman. When the same raw material occurs in both local and foreign contexts, chemical or optical characterization studies such as instrumental neutron activation analysis (INAA) or petrography can show that an item is exotic, in the case of ceramics, and sometimes actually pinpoint its source, as has been done with obsidian (Arnold et al. 1991; Bishop et al. 1982; Blackman 1984). Frequently, finished products are identified as exotic

trade items based on stylistic criteria or technology of manufacture; Greek, Roman, and imperial Chinese trade goods are often identified in this way, although such attributions are most secure when confirmed by chemical characterization studies.

Finally, exchange, particularly export activities, can be inferred archaeologically by comparing the ratio of industrial debris to finished products for a given craft item; thus, for example, disproportionate debitage: tool ratios have been used as evidence for intersite exchange of stone tools in fourth-millennium southern Mesopotamia (Wright 1972). Of course, these processes of interaction need not be mutually exclusive; often exchange and emulation are closely related. Similarly, interacting groups can either oscillate between exchange and warfare, as seen in the relations between plains and pueblo groups during the early historic period in the southwestern United States. (Ford 1972; Spielmann 1991) or even engage in both activities simultaneously.

The Organization of Interaction at the Local Level

The frequency, scale, logistics, and organization of exchange at the point of contact between two societies provide some of the most important data for reconstructing the political and economic structure of the broader network. It is relatively easy to demonstrate the existence of long-distance exchange (by identifying trade goods at a given site), but it is far more difficult to reconstruct the organizational context in which these activities took place (Earle and Ericson 1977; Ericson and Earle 1982). The frequency and volume of exchange are important indicators of the organization of exchange networks; however, both variables have proven to be extremely difficult to quantify on the basis of archaeological evidence (e.g., the debate concerning the significance of obsidian exchange at Teotihuacán; Clark 1986; Drennan et al. 1990; Santley 1984).

In general, archaeologists can only get at the organization of exchange indirectly, by extrapolating forwards or backwards from the organization of production at one end of the system, or (most frequently) from the pattern of consumption at the other. Thus, for example, regional mapping of artifact patterning in contexts of consumption and discard has been used to infer that in the Kur River basin of fourth-millennium highland Iran, intersite ceramic exchange took place through indirect marketplace distribution (Al-

den 1982a). Similarly, mapping of low volume and distance-decay in artifact distributions has been used to show that Neolithic obsidian exchange in the Near East took place through a "down-the-line" system of village to village transactions, rather than direct supply from producers to end consumers (Renfrew et al. 1966; Renfrew et al. 1968; Wright 1969).

The question of how exchange goods move through the network is closely linked to the problem of determining who actually controlled the movement of these items. Patterns of trade-good consumption can help clarify some aspects of control. For example, in an analysis of Egyptian trade with Nubia during the third millennium B.C., Adams notes a shift from an earlier phase in which trade goods were found in both elite and commoner burials to a later pattern in which imports only occurred in elite burials in both Egypt and Nubia. Adams interprets this as reflecting a transition from an earlier open pattern when entrepreneurs at all levels of society were engaged in the trade to a more centralized system where local elites in both countries monopolized access to trade items, due to their importance as prestige goods (Adams 1984:42).

In both phases, exchange activities would seem to have been under local control. The changes in the organization of interaction at the local level apparently took place through a restriction of control to elites within each society, as opposed to a takeover of the trade by foreigners.

Colonies

One of the strongest forms of evidence for direct interaction between two groups derives not from the material correlates of production and consumption, but rather from the long-term presence of foreign colonies or trade-diasporas in the territory of the trading partners. In these cases, interregional interaction involves the movement of both products and people.

Colonies are a widespread cross-cultural phenomenon closely connected with the emergence of many early state societies in both the Old and New Worlds (Algaze 1993a,b; Champion 1989; Dyson 1985; Rowlands 1987). Archaeologically documented colonies were established by state societies such as Teotihuacán (Pool 1992; Santley et al. 1987), the Mixtec and Zapotec polities of Oaxaca (Paddock 1983; Spence 1976), Tiwanaku (Goldstein 1993), the Inka (Pease 1982; Stanish 1989; Van Buren 1996); Uruk Mesopotamia (Sørensen 1986b), Egypt (Adams 1984), Assyria (Larsen 1976,

1987), Greece (Boardman 1980; Tsetskhladze and De Angelis 1994), the empire of Alexander the Great and his Hellenistic successors (Descœudres 1990; Hopkins 1979; Rostovtzeff 1938), and Rome (Bartel 1989; Haselgrove 1987; Millett 1990; Wells 1992).

For purposes of cross-cultural comparison, a colony can be most usefully defined as an implanted settlement established by one society in the territory of another society. The implanted settlement is established for long-term residence by all or part of the population and is both spatially and socially distinguishable from the communities of the host society. The settlement at least begins with a distinct formal or informal corporate identity as a community with some level of cultural, economic, military, or political ties to its homeland, although the homeland need not politically dominate the implanted settlement.

This definition treats the nature of power relations (*a*) between the colony and the host community and (*b*) between the colony and its homeland as open issues to be determined empirically. By doing so, we recognize the lessons of the trade-diaspora model: that colonial networks may be organized in a variety of ways; some implanted settlements may dominate their host communities, while others may not. This definition allows us to compare a wide variety of ancient or non-Western networks of colonies within a single general framework.

Colonies can be established for a variety of often overlapping purposes. Exchange, usually in conjunction with other functions, is probably the single most common reason for the establishment of colonies (e.g., the Old Assyrian colonies, Phoenician/Carthaginian colonies, Greek colonies such as Massalia, the Venetian or Genoese commercial enclaves, the Portuguese settlements along the African coast, and the early stages of English colonialism in India). Other important colonial functions, usually operating in conjunction with exchange, are as follows:

1. colonies as military outposts connected with direct conquest, e.g., Roman provincial colonies;
2. colonies as refuges, e.g., the Puritan Massachusetts Bay Colony;
3. colonies as "safety valves" to resettle population or defuse social conflict, e.g., Greek colonies or Australia;
4. colonies as outposts for the spread of a specific ideology, e.g., the Spanish missions in California (although it should be noted that the ideological function of the Spanish missions was often at odds with the military and extractive-economic functions of other parts of the Spanish colonial effort in the New World);

5. colonies as capital investments in agriculture, e.g., the early English colonies in Virginia.

Trade colonies can be considered a particular kind of trade-diaspora settlement. Colonies and diasporas share a focus on trade and both show tremendous variation in the forms of relations they can have with not only their host communities but also their homelands. The minor differences between the two mostly revolve around the degree of community cohesion or corporate identity and the extent to which the foreigners emphasize an ideology of distinctive cultural identity relative to the host population. For example, the idea of linkage to a definable territory is important to the corporate identity of a colony, but may be less significant for a highly dispersed trade-diaspora that defines itself more through shared ethnicity and an ideology of common origin.

But trade colonies are a territorially grounded form of trade-diaspora settlement. The trade-diaspora concept is a neutral construct that frees us from the conceptual baggage inherent in the modern use of the term "colony." This is important because it helps counteract our tendency to assume, based on sixteenth- to nineteenth-century European expansion, that all colonies dominate their host communities. Viewing exchange-oriented colonies as trade-diasporas forces us to acknowledge in our models the potential for variation in relations among homelands, foreigners, and host communities. This flexibility is essential if we are to test the archaeological correlates of world-system and distance-parity models of interregional interaction.

The identification of colonies in the archaeological record is surprisingly difficult, not least because it is closely related to the problematic issue of recognizing ethnicity through material culture (e.g., the discussion in Emberling 1997). In general, one can identify as colonies those settlements whose architecture, site plan, and material culture assemblage are identical to those of another region, but are located as spatially discrete occupations surrounded by settlements of the local culture.

One would expect colonies to be founded as completely new settlements on previously unoccupied land. Alternatively, if founded in a preexisting settlement, a colony should show sharp architectural and artifactual discontinuities with earlier occupations (see Stanish 1989). Artifactual similarities to the homeland should reflect a broad complex of material culture used in a variety of contexts, rather than being limited to a single category such as ceramics.

In an analysis of the evidence for a Teotihuacán presence at the site of Matacapán on the Mexican Gulf Coast, Santley and his colleagues argue that

the ethnic identity of the inhabitants in a colonial enclave should be expressed in material culture connected with two different levels of social inclusiveness: the enclave as a whole and the more restricted domestic level (Santley et al. 1987:87).

At the enclave-wide level, the identity of the foreigners is expressed and reinforced through public rituals; these are often centered on a ceremonial structure whose architecture generally incorporates the style or symbolic elements of the homeland. Common language, styles of dress, the wearing of particular badges or emblems, and burial customs are also enclave-wide ways to express the foreigners' separate identity. These practices are especially common because they provide highly visible identification of a person's ethnicity by others both within and outside the group (Santley et al. 1987:87).

At the domestic level, the members of an enclave generally live together in a geographically contiguous area, distinct from other parts of the host community. In the households of the foreign enclave, ethnicity will be expressed in culinary practices. Food preferences, preparation procedures, and the material culture associated with these practices should differ from local patterns in the host community while resembling the cultural practices of the homeland (although one might also expect to see eventual convergences in foreign and local cuisines in long-term colonial situations). In addition, the foreigners' distinctive ethnic identity will often be reflected by the use of raw materials or styles from the homeland in the ritual paraphernalia used for household rituals (Santley et al. 1987:87–88).

It is important to consider alternative interpretations for the presence of foreign styles of material culture in the sites of a different culture, rather than automatically assuming that this material culture reflects the existence of a foreign enclave. The use of multiple criteria combined with contrastive patterning between the foreign and local assemblages is necessary to distinguish the actual presence of foreign settlers from (a) trade without a trade-diaspora or (b) emulation by groups of local elites who are simply adopting status-related aspects of foreign material culture (through either importation or imitation).

Trade, emulation, and the presence of trade colonies/diasporas should leave different archaeological signatures. If interaction is limited to trade without the presence of a foreign enclave, then we would expect to see only portable trade items in the local settlement; foreign public and residential architecture would be absent, as would be evidence for foreign food preferences in spatially discrete contexts.

As discussed earlier in this chapter, if interaction consists of local elite

emulation of foreign styles, we would expect to see these imports or imitations limited to high status households, while lower status groups retained local customs. In most cases, the elite households would show a distinction between the emulation of foreign styles in public contexts and the retention of local styles in domestic life.

This second expectation may not always apply. In some cases of complete emulation, where the local elites have completely taken on foreign material culture and behavioral patterns, it might become difficult if not impossible to distinguish colonies from fully acculturated local elites. Emulation or acculturation can work both ways. Thus, for example, the Old Assyrian trading colony, or *karum*, at Kanesh in Anatolia used entirely local styles of architecture and ceramics—so much so that the excavators were only able to identify it as a colony through the presence in the houses of cuneiform tablets representing the business archives and correspondence of the Mesopotamian families in this trade-diaspora (Özgüç 1963).

In sum, interregional exchange can take several forms at the local level, each with distinctive archaeological correlates. We can identify these differing forms of economic and political relations by tracing the movement of the goods themselves and by identifying the groups who controlled the movement of these goods. On this basis, we can reconstruct several patterns: (a) indirect, down-the-line exchange, (b) direct exchange under local control, and (c) exchange networks characterized by trade colonies/diasporas in the territory of their trading partners. These enclaves can be identified in the archaeological record and distinguished from other forms of interaction. Trade colonies are a particularly common way of organizing interregional exchange in early complex societies.

The Political Economy of Interregional Interaction

How can we use the organization of exchange at the local level to infer the political and economic relationships among the different regions involved in this interaction network? We need to specify these linkages to generate archaeological tests of the world-system and distance-parity interaction models.

These models can best be tested in the less complex (peripheral) parts of an interaction network, because these are precisely the areas where the economic and political asymmetries predicted by the world-system model should be most evident. But we need to be careful in interpreting the

evidence for interregional interaction in these less complex polities. One cannot simply use the presence, in a periphery, of core-produced exchange goods as evidence for core control over the interregional political economy.

First, the existence of exchange does not necessarily mean that one trading partner dominates the other. Second, the fact that exchange takes place does not make it the primary factor structuring the political economy of the polities involved. Problems of sampling, recovery, and preservation of archaeological trade goods, especially organic commodities such as fur, textiles, timber, or slaves, make it extremely difficult, if not impossible, to estimate the scale of trade or the accumulation of capital in the absence of written records (Champion 1989:11). As a result, it is especially difficult to assess the relative importance of exchange versus other forms of economic activity as factors structuring the developmental pathway of a given society.

Third, one cannot infer core domination based on the flow of stylistic influences from an urbanized area to a less complex outlying zone because, as noted earlier, ideological, political, and economic power do not necessarily coincide. The adoption by one society of certain stylistic elements or items of material culture from another implies nothing about political or economic relations between the two groups. The practitioners of this cultural borrowing often transform borrowed items of material culture into their own systems of meaning; these may have little or no connection with the original use in the core culture (e.g., Moorey 1987:42–43; Thomas 1991; Winter 1977:377).

These difficulties in assessing the role of exchange in societal development may help explain why there have been surprisingly few attempts to specify the archaeological correlates of variation in the political economy of interregional networks. Recent research in Mesoamerica has begun to develop conceptual frameworks that can be used to formulate archaeological tests of world-system and alternative interaction models.

In a study of relations between the powerful urbanized states of the basin of Mexico and the smaller polities of the Veracruz area on the Gulf Coast during the middle classic and late postclassic periods, Stark outlines a range of six possible forms of interaction. These reflect progressively smaller degrees of highland control and influence over the Gulf Coast: (a) direct administration, (b) indirect administration, (c) asymmetrical alliance, (d) elite relations, (e) independence and nonrelations, and (f) independence and competition (Stark 1990:248).

Stark suggests that we can best determine which form of interregional political economy was operating by examining the degree to which the internal organization of the smaller polities along the coast was affected by this

interregional contact. Variation in the interregional political economy will be reflected in three major forms of activity in the coastal polities: (a) exchange and appropriation, (b) local production, and (c) the local political hierarchy as expressed in regional settlement patterns. The greater the degree of highland dominance over the lowlands, the more we would expect to see major transformations and asymmetries in these activities.

Direct imperial administration would be the strongest form of highland control over the Gulf Coast. Under these conditions, we would expect to see tribute extraction and a “unidirectional extralocal economic orientation” (Stark 1990:248) in which the lowlands supply the highlands with goods and services, whereas imperial symbols of status and authority would be exported to the coast or imitated by coastal elites.

One would expect provincial production to reorient itself in order to meet these external demands for tributary and other goods; this extractive system can often lead to a decline in the local standard of living. The local political hierarchy would be supplanted by imperial administration. Concurrently, one would expect a reorganization of local settlement systems to bring them in line with imperial administrative, security, and economic priorities. Intrusive settlements established under direct administrative control can include colonies established for trade or as military outposts. Indirect administration would have a virtually identical set of characteristics, except that local officials would remain in place (Stark 1990:table 2).

Asymmetrical alliances and elite relations represent a lower degree of highland control. Imperial facilities, administrators, and tributary demands would be absent. Instead, connections to the highland centers would appear in the form of prestige goods presented to local elites. One would expect to see “heterogeneous extralocal economic orientations” (Stark 1990:table 2), rather than the unidirectional flow of goods from the coast to the highlands.

Given the lack of tributary demands, and the relative symmetry of exchange relations, local production systems are unlikely to undergo radical transformations as a result of either asymmetrical alliances or elite relations between the highland states and the lowland polities. The local political hierarchy would not be expected to show marked changes. One would expect local elites to adopt core polity status symbols, but these would be reinterpreted or translated into local cultural idioms to bolster indigenous elite authority.

At the same time, local rituals and symbols would be expected to survive and even predominate over these symbolic imports. Due to the limited impact of highland economic and political power, there would be no reason to expect any reorganization of the local settlement hierarchy. The highland

states may establish trading enclaves in the lowlands (but not military outposts; Stark 1990:table 2).

The third set of modalities in an interregional political economy consists of situations where the lowland polities are altogether independent of the highland core states. Stark suggests that these independent Gulf Coast polities can either be neutral or actively hostile to the highland centers. Core-polity prestige goods, status items, or political symbols would be either absent from independent lowland societies or else their use and meaning would be completely transformed into local ideological systems. Local elite hierarchies would remain completely intact.

In the absence of tributary demands and unidirectional exchange, one would expect no significant changes in the organization of local productive systems and no reduction in local standards of living. One would expect no reorganization of the local settlement hierarchy. Core polity trading enclaves might be present under conditions of lowland independence and neutrality, but would be absent in the case of hostility between independent highland and lowland polities (Stark 1990:table 2).

Stark's work emphasizes several important theoretical and methodological points. First, core dominance is only one possibility out of a range of potential forms of interaction between two regions at different levels of sociopolitical complexity. Of the six potential degrees of highland control over the Veracruz coast, only the first two (direct and indirect administration) and possibly the third (asymmetric alliances) would in any way match the structure and underlying assumptions of the world-system model.

Second, this variation in political economy can be easily transformed into a spatial gradient, so that many or most of the modalities suggested by Stark can be present in different parts of the same network. In other words, one might see direct administration in areas closest to the basin of Mexico, and a progressive shift toward lower degrees of highland control with increasing distance from centers such as Teotihuacán or Tenochtitlán.

Third, Stark's framework is consistent with the expectations of the trade-diaspora concept in suggesting that trade colonies can exist in virtually all of these different forms of interregional political economy, from direct imperial administration through complete independence of the core and periphery. In other words, the mere existence of trade colonies/diasporas implies nothing about the presence or absence of hierarchical political relationship between an enclave and its host community. The presence of foreign enclaves, exchange, and core status symbols/prestige goods are ambiguous lines of evidence for the organization of interregional political econo-

mies because they occur under most, if not all, of the differing degrees of core control over peripheries.

By contrast, Stark's approach suggests that the most reliable indicators of core control over a peripheral area are: (a) the presence of military outposts, (b) transformation of local productive systems into export-oriented configurations, and (c) evidence for direct or indirect core control over local administration and the appropriation of locally produced surpluses.

Schortman and Urban's (1994) analysis of interaction on the southeast Maya periphery strongly supports the idea that the organization of local production is more useful than the presence of core ideologies and prestige goods in assessing power relationships in an interregional political economy.

In a study of relations between classic Maya centers such as Copan and the peripheral Naco Valley of northwest Honduras, Schortman and Urban show that local elites exported finished shell ornaments to Maya centers and emulated selected aspects of Maya ideology and rituals, particularly those related to ball court ceremonies.

But there is no evidence that the Naco Valley underwent any kind of economic or political exploitation by the Maya core area. Instead, local elites at their center of La Sierra maintained close control over local subsistence and craft production, over the production of shell ornaments for export and over the distribution of imported Maya polychrome ceramics (Schortman and Urban 1994:405-409). Prestige goods were moving both ways in the system (shell to Copan, polychrome pottery to La Sierra), rather than a unidirectional flow as in the kind of tributary system one would expect with either direct Maya political control or economic domination by the Maya core in a world-system structure.

At the same time, the evidence suggests that the local elites controlled at least their end of the trade network. As in Stark's model of highland-coastal relations, Schortman and Urban's analysis of the Naco Valley data suggests that evidence for emulation or exchange does not imply core control over an interregional network. Instead, one must clarify the organization of local production and determine which groups control exchange in order to reconstruct power relationships in the political economy of interaction.

These principles can be applied to formulate archaeological tests of the world-system and distance-parity interaction models. Mathien (1986) suggests a series of archaeological correlates of world-system relationships in Mesoamerican-Anasazi interaction at Chaco Canyon in the San Juan basin of the southwestern United States. This study tests the hypotheses of Di Peso (1974) and Pailles and Whitecotton (1979; Whitecotton and Pailles 1986) that

Mesoamerican merchants dominated the Chaco Anasazi through their control over an asymmetric system of prestige-goods exchange centered on the Chalchuites area and Casas Grandes in northern Mexico (or even further south at Tula in the basin of Mexico) during the eleventh and twelfth centuries A.D. Mathien proposes seven archaeological correlates to be expected if Mesoamerican-Chacoan interaction were structured along the lines of the world-system model:

1. There should be a core-area state level system in existence in Mesoamerica/Mexico during the periods of maximum change in the Chacoan area.
2. The core area must be within the 40–60 day transport range of the Chacoan region.
3. There should be evidence for Chacoan export of bulk items, raw materials, or subsistence goods to Mesoamerica during the eleventh through thirteenth centuries A.D.
4. There should be evidence of Mesoamerican trade enclaves in Chacoan settlements.
5. Mesoamerican imports, especially prestige goods or luxury items, should be present in Chacoan elite centers.
6. If Southwestern turquoise were the main item desired by the Mesoamerican core, then this raw material should be common in Mesoamerican core centers during the main contact period.
7. There should be identifiable routes linking the core and periphery, and core-controlled way stations along this route (Mathien 1986:225–232).

Mathien argues that the Mesoamerican-Chacoan interaction does not meet these expectations and, on that basis, concludes that the world-system model is inapplicable to the southwestern United States in the eleventh through thirteenth centuries A.D.

This analysis provides a good starting point for specifying a more generalized archaeological test of the world-system model. Mathien's criteria of initial complexity for the core area, limitations of scale in the interaction sphere, and the need for identifiable access routes between polities are all necessary for the existence of world-systems.

However, many of Mathien's suggested archaeological correlates characterize not only world-systems, but other forms of interregional interaction as well. For example, as we have seen, long-distance exchange and trade colonies/diasporas can be present in many different forms of interregional interaction, including those where the smaller scale (peripheral) polities are

completely independent of the larger more complex (core) polities. To avoid the ambiguity of these criteria, we need to focus on the organization of local production and the question of who controls exchange as the main standards for reconstructing the political economy of interregional interaction.

We need to take a diachronic perspective to compare local political economy before and after incorporation into the interaction network to see what (if any) aspects of local production change, what stays the same, and the degree to which these transformations (if present) correlate with major periods of interregional contact. Finally, we must specify archaeological correlates of both world-systems and alternative models in order to determine which construct best fits the data from a given region.

Archaeological Correlates of the World-System and Distance-Parity Models

The world-system and distance-parity models can be most effectively tested by comparing the economic and social organization of a peripheral polity before and after it was drawn into a system of regional interaction with a developed core state. If the interregional political economy is organized along the lines predicted by Wallerstein's world-system model, then one would expect to see the following archaeological correlates in the local polity:

1. Agriculture, craft production, and mineral production (e.g., mining or obsidian) should shift from an initial state of generalized subsistence production or production for low levels of local exchange toward the specialized production of large-scale surpluses intended for either tribute or export to the core.
2. There should be evidence for a large-scale increase in exchange activities. In particular, one would expect large volumes of prestige goods imported from the more complex core polity.
3. There should be evidence for core control over an asymmetric exchange system, as evidenced by the unidirectional (periphery-to-core) pattern of circulation of goods and the predominance of core administrative systems in the periphery.
4. There should be evidence for local elite emulation of core ideology and prestige goods (although emulation of this sort is not limited to world-system relationships).
5. There should be evidence for a rapid increase in local social com-

plexity and social differentiation (specifically, increases in local elite power and wealth) as a result of incorporation into the interregional interaction network.

6. There should be evidence for a net outflow of subsistence and craft goods from the local settlement, potentially leading to a decline in the standard of living for local commoners, as they are reduced from economic and political autonomy to dependence on the core.
7. If core polities establish colonies in the less complex peripheral polities, these implanted settlements would have asymmetric exchange and political relations with local peoples. Core control would be reflected in the collection of tribute; for example, the enclaves would be supplied by the local people with foodstuffs and craft goods. In cases of maximal core control (Stark's "direct administration"), colonies might take the form of fortified military outposts.
8. Local settlement patterns should show evidence of structural reorganization into increasingly hierarchical systems, possibly conforming to the dendritic, primate patterns associated with extractive economies (Kelley 1976; Stein and Wattenmaker 1990).

By contrast, if the distance-parity model applies, one would expect increasing distance and transportation costs to exert progressively greater effects on the degree of core dominance, asymmetrical exchange, and the role of exchange within the interaction network. In polities immediately bordering the more complex core states, the organization of local production and control over exchange would conform to world-system relationships. However, one would also expect to see a spatial gradient or decay in the degree of core power, leading to the following archaeological correlates in local polities that are distant from the core states:

1. Agricultural, pastoral, and craft economies should not show any major changes in either intensity of production or in degree of economic specialization.
2. The local economy, taken as a whole, should be oriented toward generalized, subsistence level production and local exchange controlled by the indigenous population.
3. One would expect a low volume of exchange activities. The only exchange goods from the core should be those with high ratios of value to weight (or bulk).
4. One would expect symmetric exchange relations, with no evidence for exclusive core control over economic or political organization. Administrative systems should show evidence for both core and local

control over different stages in the production, circulation, and consumption of foodstuffs, raw materials, and craft goods.

5. There should be no evidence for sudden major increases in the degree of local social complexity.
6. Local elites may emulate core ideology and prestige goods, but this need not be the case. Prestige goods from the core would be incorporated into local political ideological systems (through their use in local ritual or as markers of local elite status).
7. If core states establish colonies in local polities, these enclaves would be autonomous trade-diaspora settlements. Instead of extracting tribute or controlling unequal exchange, core enclaves would either be self-sufficient in food and craft production or obtain these items through symmetric exchange with the host community. No core military outposts will be present in the local polities.
8. Local settlement patterns would show continuity with precontact configurations, and would lack the dendritic structures associated with an extractive export economy.

These archaeological correlates specify criteria that allow us to document variability in the organization of interregional interaction and diaspora-host relations, while permitting cross-cultural comparisons of these networks. We can now test the applicability of the world-system and alternative distance-parity models against the archaeological record. The following chapters evaluate these two models, using as a case study the expansion of the earliest urbanized polities of Mesopotamia into surrounding regions during the Uruk period in the fourth millennium B.C., in the world's earliest known colonial system.

6

A Case Study

Uruk Mesopotamia and Its Neighbors in the Fourth Millennium B.C.

Relations between Mesopotamia and neighboring regions during the fourth millennium B.C. Uruk period provide an ideal archaeological case to test the world-system and distance-parity models of interregional interaction. The clear differences in sociopolitical organization between the earliest urbanized states of Uruk Mesopotamia and the contemporaneous, but less complex polities of Anatolia, Syria, and Iran allow us to evaluate the ideas of core dominance and peripheralization, while the evidence for interaction can serve to test the applicability of concepts such as asymmetric exchange and long-distance trade as a prime mover of social change. Uruk Mesopotamia appears to have established the world's earliest known colonial network in order to gain access to natural resources in Anatolia and the Zagros Mountains.

Based on these characteristics, a number of researchers have suggested that Uruk Mesopotamia and its neighboring regions formed a world-system (Algaze 1989b; 1993b; Frangipane and Palmieri 1987; Palmieri 1985; Sørensen 1986b). In this chapter I provide a brief overview of the sociopolitical organization of complex societies in Mesopotamia and Anatolia in the fourth millennium B.C., along with the archaeological evidence suggesting that Uruk Mesopotamia established a network of settlements along trade and communication routes to the neighboring steppe and highland areas. I then outline the model of the Uruk expansion as a prehistoric world-system and present some of the main critiques of this reconstruction.

Mesopotamia and the Quest for Access to Natural Resources

The development of the world's earliest known urbanized state societies in southern Mesopotamia is especially striking when we consider that this arid alluvial region between the Tigris and Euphrates Rivers has virtually no natural resources other than earth, water, and animals. Southern Mesopotamia lacked metals, lumber, semiprecious stones, flint/chert, and even building stone such as sandstone or limestone. However, these resources were available in abundance in the neighboring highland zones of the Taurus Mountains (modern Turkey) and the Zagros Mountains (in what is today Iran). These resources were not only available; they were also relatively accessible.

A series of mountain passes (which later formed part of the famous Khorasan Road or Silk Route to China) led from Mesopotamia up into the raw material source zones of the Zagros Mountains to the northeast (fig. 6.1). Use of the trade routes often varied by season. In summer, the preferred route ran north along the Tigris or the Zagros foothills, before cutting west at Nineveh or near the modern town of Cizre in southeast Turkey (Algaze 1993b:48; Oates 1968:21).

The single most important historical route of Mesopotamian communication and trade with Syria, Anatolia, the Levant, and the Mediterranean was the Euphrates River. Arising in the Eastern Taurus Mountains of Anatolia, the Euphrates flows southeast across the north Syrian plain, across the steppes of the Assyrian Jazira down into the southern alluvial zone of Sumer, where it meets the Tigris River and shortly afterwards empties into the Persian Gulf.

Upstream passage by foot, donkey, or towed barge has always been relatively time consuming, so that a journey from Larsa in southern Mesopotamia to Emar on the Syrian Euphrates would have taken about two months of uninterrupted travel (Algaze 1993b:135, chap. 7, n. 1; Hallo 1964). By contrast, the downstream trip by raft or boat was easier and almost always faster. Although we do not know ancient travel times for downstream passage on the Euphrates, it is possible to make reasonable estimates based on accounts of this transportation system at the beginning of the twentieth century, when the traditional modes of transport were still in use.

Flat-bottomed shakur boats built at Birecik on the Euphrates in southeast Turkey could carry up to five tons of cargo downstream to southern Mesopotamia in as little as twelve days (although travel times varied

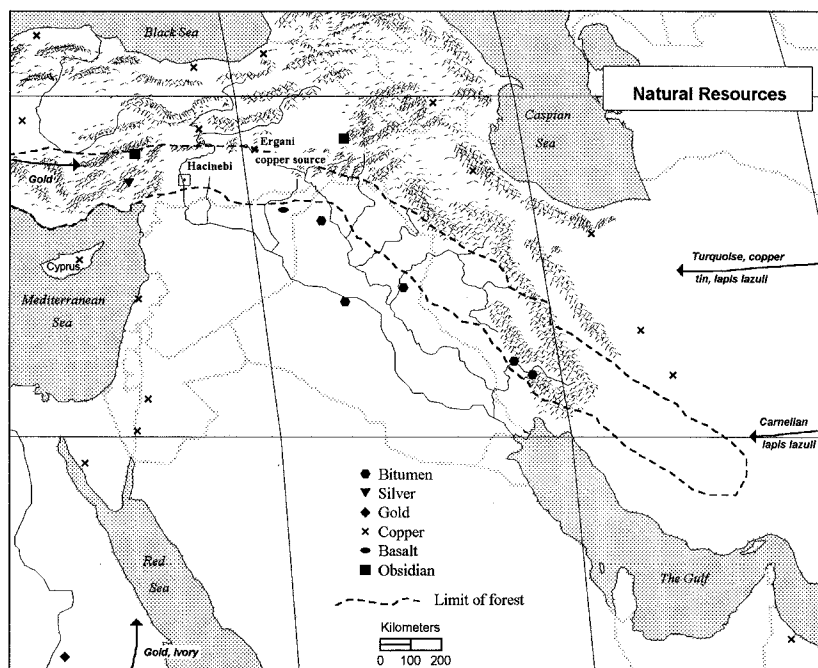


Figure 6.1. Resource map of the Near East. Drawn by Dr. John Hudson and Mary Costello, Northwestern University Geography Program.

enormously and could take as much as two months under adverse weather conditions; Great Britain 1916:167). The differences between upstream versus downstream transportation costs in this riverine system under conditions of fourth-millennium-B.C. technology were structured trade so that bulk items were relatively inexpensive to ship to Mesopotamia from the highland source area in Anatolia; however, given the difficulties of upstream transportation, Mesopotamian exports to Anatolia would have been much more costly.

Using the Euphrates River and the Zagros passes as critical routes of access, Mesopotamia had to obtain virtually all its essential raw materials and high status items such as obsidian (Wright 1969), copper, tin (Muhly 1973; Turkey 1972), gold (Maxwell-Hyslop 1977; Turkey 1970), silver (Yener 1983), chlorite (Kohl 1975, 1978), lapis lazuli (Herrmann 1968), and lumber (Rowton 1967) from the resource-rich neighboring highland zones of Anato-

lia and the Zagros Mountains (in the third millennium B.C., a third major supply area for copper emerged in Oman at the southern end of the Persian Gulf).

As a result of these imbalances, Mesopotamian history from the eighth millennium B.C. onwards shows repeated efforts to gain access to or control over the resources of its highland neighbors to the north and east (Alden 1982b; Algaze 1989b, 1993b; Kohl 1978; Marfoe 1987; Yener 1982; Yoffee 1981).

Depending on the particular resources and the relative balance of power with the neighboring highland regions, Mesopotamian communities, and later polities, gained access to these raw materials in different periods through a variety of strategies including private or administered trade (Adams 1974; Foster 1977; Larsen 1976), large-scale gift exchanges between allies (Zaccagnini 1987), raiding or tribute extraction (Jankowska 1969), and outright imperial conquest (Larsen 1979). The available evidence suggests that the nature of this interaction also changed as Mesopotamia developed increasingly complex forms of sociopolitical organization.

The earliest documented linkages between Mesopotamia and eastern Anatolia involved egalitarian village communities in a long-distance obsidian exchange network that began in early Neolithic times and lasted from the eighth through the fourth millennium B.C. (Blackman 1984; Dixon et al. 1972; Renfrew and Dixon 1976; Renfrew et al. 1966; Renfrew et al. 1968; Wright 1969). However, the volume of goods moving through this system appears to have been quite limited, whereas the artifact distributions suggest an indirect, down-the-line mode of exchange (Renfrew 1975:46–48).

The level of interaction with the peripheral resource zones increased dramatically with the development of ranked, or chiefly societies, in the southern Mesopotamia and southwestern Iran during the fifth millennium B.C. (Berman 1994; Hole 1983, 1989; Oates 1983; Stein 1994a; Wright 1984). This period sees the spread of south Mesopotamian 'Ubaid III–IV material culture into neighboring areas of north Mesopotamia, north Syria, southeast Anatolia, the Zagros and the Arabian coast of the Persian Gulf (Akkermans 1989; Oates 1978; Oates et al. 1977; Thuesen 1989).

With the possible exception of the Persian Gulf material, however, this development seems to have reflected the gradual adoption of 'Ubaid styles of ceramics, architecture, and religious ideology at local sites such as Gawra in northern Mesopotamia or Hama in north Syria, rather than any sudden large-scale export of goods or movement of people out of southern Mesopotamia (Breniquet 1986; Stein 1991; Thuesen 1989; but see also Oates 1993; Roaf and

Galbraith 1994 for a different perspective). Large-scale, high-volume exchange networks do not seem to have emerged until the Uruk period, when the pattern of contact with north Mesopotamia, north Syria, the Zagros, and Anatolia shows a marked change from the earlier 'Ubaid III–IV system. This new structure of interaction arose in tandem with the origins of the state.

Urbanized State Societies of Uruk Mesopotamia

The world's earliest known urbanized state societies developed in southern Mesopotamia and the adjacent area of Khuzestan in southwestern Iran during the Uruk period, ca. 3800–3100 B.C. (Nissen 1988; Pollock 1992; Wright 1986; Wright and Johnson 1975). Most of our understanding of this period comes from excavations and surveys at the eponymous city of Uruk/Warka (Boehmer 1991) and at Susa (Harper et al. 1992; Le Breton 1957). The Uruk period has evidence for virtually all the characteristics archaeologists use to identify state societies: urbanism, centralized authority, complex settlement hierarchies, social stratification, and a specialized administrative bureaucracy (Wright 1977, 1978).

Uruk was first settled in the 'Ubaid period. During the following Uruk period, the site grew to urban proportions of 250 ha and had a population of about 10,000 to 50,000 (Adams 1981:71; Finkbeiner 1987:142, 1991). The city shows evidence of significant internal differentiation, having residential neighborhoods, craft quarters, and an urban core with specialized public architecture, notably the Anu Ziggurat/White Temple and the Eanna Precinct.

The Anu Ziggurat was a massive, flat-topped platform that served as the base for the White Temple, dedicated to the sky god Anu. This structure and all other Uruk temples share the distinctive Mesopotamian design that first developed in the earlier 'Ubaid period: a tripartite ground plan whose corners were oriented to the cardinal points, a façade of buttresses and niches, with an altar and offering table inside the long central room of the structure.

The massive proportions of the Anu Ziggurat/White Temple suggest the existence of a highly organized institutional elite capable of mobilizing and supplying a large skilled workforce of laborers and craftsmen for this construction, which by one estimate involved fifteen hundred people working ten hours a day for five years to complete (Nissen 1988:95).

The neighboring Eanna Precinct, which is sacred to the goddess Inanna, forms the second major administrative/temple complex in the urban core of Uruk. Two monumental public buildings dominate this area: the

Limestone Temple and the Pillar Temple. The tripartite plan Limestone temple is notable not only for its 76 x 30 m size, but also for the fact that the building stone for its foundations was brought from quarries 60 km away. The Pillar Temple (which may be an administrative rather than a ritual structure) is decorated with the distinctive Uruk Mesopotamian form of architectural ornamentation for public buildings: nail-shaped "wall cones" 12–23 cm long, with flat, dimpled, or decorated heads, often painted red, white, or black. When set into plaster on the walls and pillars of the building, the cones formed a mosaic pattern of geometric motifs (Frankfort 1977:24–25).

The canonical features of Uruk temple design and the use of stone or (more often) baked-clay wall cones as architectural ornaments are important because they are distinctly Mesopotamian forms of material culture. Several researchers have suggested that the presence of these features in Syria, Iran, or Anatolia provides strong evidence for either interaction with Mesopotamia or the actual presence of Mesopotamians in these distant areas.

Analyses of the iconography of sculptures and stone vessels found at Uruk confirms that these temples were powerful institutions in the Uruk state, probably connected in some way with the newly emergent institution of kingship. The carved alabaster Uruk vase shows the collection of agricultural goods and animals to be brought by a robed figure as offerings to the goddess Inanna. Although a critical portion of the presentation scene is damaged, the individual making the offering has been reconstructed as a king (e.g., Roaf 1990:61).

Support for this interpretation comes from a small stone sculpture, found in the Eanna precinct, depicting a figure whose beard, hairstyle, and other features match the iconographic conventions used in later periods to represent kings (Nissen 1988:fig. 43). Similar kinglike figures also appear on sculptured reliefs and a number of Uruk cylinder seals (Becker 1993; Brandes 1979; Frankfort 1977:33–34).

The kings and temple priests in cities such as Uruk administered and apparently taxed their hinterlands as part of a tightly integrated regional political economy. Survey and excavation work in the countryside around Uruk and Susa show the emergence during the Uruk period of a four-tiered settlement hierarchy consisting of large centers, small centers, towns, and villages, with approximately half of the population living in "urban" settlements larger than 10 ha (Adams 1981:75).

Wright and Johnson interpret complex settlement hierarchies of this sort as characteristic of state societies (Johnson 1973:15; Wright and Johnson 1975). Plots of rank-size distributions for Uruk period settlements in the Susa area show log-linear relationships consistent with high levels of

regional integration through trade, taxation, and administration (Johnson 1987:136). Excavations at sites such as Sharafabad in the Susiana plain show evidence that urban administrators directly monitored rural agricultural and pastoral production in a highly centralized political economy that controlled taxation, tribute, and the issuance of rations to state personnel (Wright et al. 1980). The replication of urban-centered settlement hierarchies in several parts of both southern Mesopotamia and southwestern Iran strongly suggests that Uruk society was composed of multiple, probably competing, complex polities, rather than a single unified state.

The emergent Uruk states were able to administer the collection, transportation, storage, and disbursement of taxes, tribute, rations, or exchange goods by using an ingenious record-keeping technology distinctive to Mesopotamia. This system combined several components that are worth describing in detail due to their significance for the identification of Uruk colonies in areas outside of Mesopotamia proper.

The basic part of the record-keeping process was the cylinder seal: a long, stone cylinder whose surface was carved or drilled with a figural or geometric design unique to its individual or institutional owner. When rolled over moist clay, the cylinder-seal impression functioned as the “signature” of the sealer, thereby authorizing or authenticating an economic transaction. If a container of goods had to be sent from one place to another, the person or institution sending the shipment would close the container (a jar, basket, sack, or reed bundle), and place a lump of clay over the closure. This person would then roll his or her cylinder seal over the clay, leaving their distinctive seal impression.

Once the clay had dried, this impression would have functioned as a tamper-evident closure, guaranteeing the integrity of the container’s contents. The person receiving the shipment would then inspect the sealed closure to make sure that the shipment had arrived intact. The seal impression could be removed and retained as a form of receipt confirming that the transaction had been completed.

People could monitor even more complex transactions by using either numerical tablets or hollow clay balls (*bullae*) filled with tokens. The clay tablets were impressed with numerical notations and cylinder seals to authorize and confirm the quantities of goods being sent from one place to another.

The hollow clay balls probably functioned in a roughly similar way. They were frequently filled with unbaked clay tokens of different shapes and sizes; one theory is that each type of token represented a designated quantity of a particular commodity such as sheep, goats, barley, or slaves (Schmandt-Besserat 1978, 1981; for other views see Michalowski 1993). The

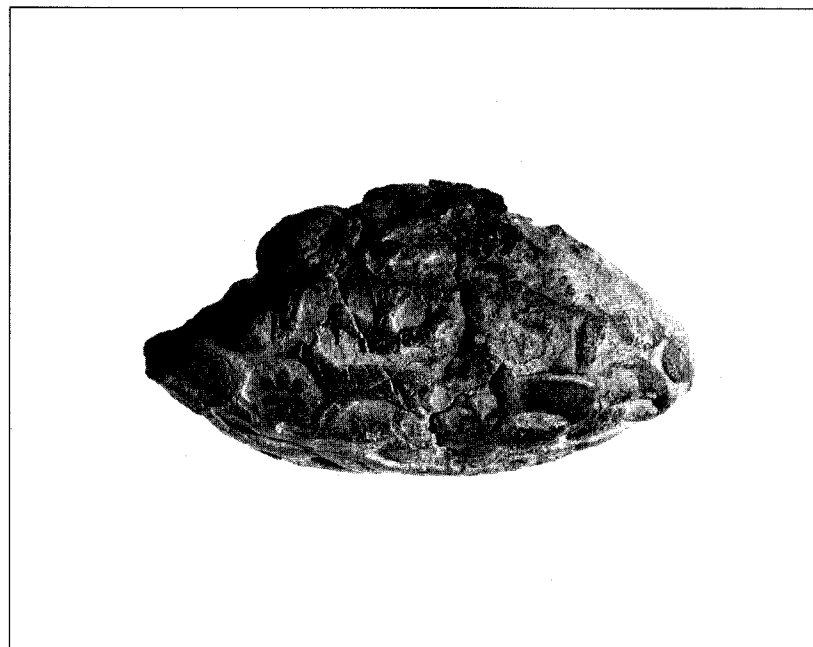


Figure 6.2. Cylinder-seal-impressed bulla from Habuba Kabira. Courtesy of Dr. Eva Strommenger-Nagel, project director.

closed bulla was then impressed with one or more cylinder seals to authorize the transaction.

The tablets or token-filled bullae could have been either retained by the sender as a record of the transaction or sent along with the shipment of goods as a kind of theft-proof packing list for the recipient at the other end of the transaction. Seals and clay sealings were also used to “lock” the doors of storerooms in temples, palaces, and even villages, to prevent unauthorized access to their contents. This distinctive Mesopotamian system of cylinder seals, sealings, tokens, bullae and tablets allowed people to keep records of complex economic transactions carried out over large distances and long time intervals.

By the end of the Uruk period, ca. 3100 B.C., simple pictographic signs were being incised on the tablets, bullae, and clay balls—the beginnings of the world’s earliest known writing system (fig. 6.2). In Mesopotamia, the origins of writing are closely tied to administration of economic activities: 85% of the earliest texts are very abbreviated documents listing the amounts

of different goods received, stored, or disbursed. Most importantly, all the earliest written documents are found in layers of trash surrounding the public buildings in the Eanna precinct at Uruk, showing that, from the very beginning, the use of writing was closely tied to the economic activities of the centralized institutions in late Uruk society (Nissen et al. 1993:317–319).

Concurrent with these political and administrative developments, Uruk society shows both artifactual and textual evidence for an expansion and reorganization of craft specialization, with the widespread distribution of mass-produced pottery, most notably handmade beveled-rim bowls and wheel-made items such as “flower pots” (*blumentöpfe*) or smaller conical cups (Sürenhagen 1974–75, 1986a; Millard 1988; Kalsbeek 1980). In other new productive activities, such as metalworking, the specialists, productive facilities, and raw materials appear to have been closely controlled by the centralized authorities in a form of attached craft specialization (Nissen 1988:82–83; Stein 1996).

Some of the most important evidence for both craft specialization and social stratification in the Uruk period derives from written records in the Eanna precinct, most notably a text called the Standard Professions List. The Standard Professions List is a text that was widely copied, probably as a training exercise for scribes, for hundreds of years in Mesopotamian history. The earliest known version of this text dates to the late Uruk period and is interpreted by comparison with more complete and more easily legible versions from 600 years later.

The list enumerates the names of approximately one hundred different professions in descending hierarchical order, starting with the king and ending with the humblest positions. In addition to priests, ambassadors, courtiers, and various ranks of supervisors, the Standard Professions List also records craft specializations such as smiths, jewelers, stonecutters, and probably potters as well (Nissen 1986:329). This evidence suggests a high degree of social stratification in a specialized, internally differentiated system where many (but by no means all) economic activities were controlled by the centralized religious or political authorities in Uruk (Stein 1996).

These converging lines of evidence indicate that during the early to mid-fourth millennium B.C., urbanized state societies had emerged over much of the alluvium in southern Mesopotamia and southwestern Iran. The elites of these highly stratified polities had developed centralized institutions through which they were able to mobilize large amounts of labor and goods from their hinterlands in a meticulously administered political economy. Mesopotamian elites looked farther afield as well.

The Uruk Expansion

The economic sphere of Uruk Mesopotamian state societies quickly expanded to form an extensive interaction network connecting the southern alluvium with the less urbanized polities in the neighboring highlands to the north and east. Several sites in the latter areas have been identified as Uruk trading colonies, apparently established to gain access to trade/communication routes while extracting metals, semiprecious stones, lumber, or other commodities from the resource-rich highland zones, in what many researchers consider the world's earliest known colonial system.

Sites with characteristic Uruk architecture, ceramics, and administrative technology (i.e., seals, sealings, bullae, tokens, and numerical tablets) were established in the key routes through the Iranian Zagros (Weiss and Young 1975), on the Tigris River in northern Mesopotamia (Algaze 1986a), across the Habur headwaters region (Schwartz 1988b:9), and up the Euphrates River into the Taurus highlands (Esin 1982b:108–110, 1982a; Frangipane and Palmieri 1987:297; Sürenhagen 1986b:15). This process is often called the “Uruk expansion.”

The Uruk expansion was initially thought to be a relatively short-lived phenomenon, lasting no more than one hundred to one hundred fifty years in the late Uruk period. We now know that this was a much longer period of interaction, beginning in the middle Uruk period, ca. 3700 B.C., and lasting through most of the late Uruk period up to ca. 3100 B.C. (based on both radiocarbon dating and ceramic chronology; e.g., Boese 1995:272; Pollock and Coursey 1996; Stein 1997:fig. 12; Stein et al. 1996b:table 1).

Spanning up to six hundred years and extending over an area of approximately 5500 km², the Uruk expansion seems to have been highly variable in both space and time. For the middle Uruk period, we know of only a small number of Mesopotamian colonies or outposts (Boese 1987, 1995; Oates and Oates 1997; Stein et al. 1996a,b). The fact that most of the known Mesopotamian implanted settlements date to the late Uruk period (Algaze 1993b; Sürenhagen 1986b:9) suggests that the scale of Mesopotamian colonization and trade increased in the later fourth millennium B.C.

The Uruk expansion shows interesting patterns of spatial variation. In both the middle and late Uruk periods, Mesopotamian settlements included not only fortified colonies established *de novo* but also smaller outposts established inside preexisting local settlements. Although generally located on trade routes, the density and placement of Uruk settlements also seem to

be closely related to the scale and complexity of the preexisting local polities in Syria, northern Iraq, and southeast Anatolia.

Schwartz and Frangipane note that in areas such as the Syrian middle Euphrates Valley (the Tabqa Dam region) where the local population was sparse, Uruk settlements tended to be both larger and more numerous (Frangipane 1997a:47; G. Schwartz 1998). However, in regions such as northern Iraq/northeast Syria, where local settlements were both common and densely populated, Uruk implanted settlements are extremely rare (in fact, Tell Brak is the only known example from this area; G. Schwartz 1998).

For reasons that we do not really understand, the Uruk expansion seems to have ended fairly abruptly, ca. 3100 B.C., with the abandonment or destruction of Uruk settlements in Syria, Anatolia, and the Zagros. The full geographic extent and changing organization of the Uruk expansion are difficult to evaluate because most broad-scale reconstructions are forced to flesh out the limited amount of excavated material from identifiable Uruk implanted settlements by using regional survey data—mainly surface distributions of Uruk ceramics (and occasionally wall cones) on local sites in the steppes and highlands.

Without multiple converging lines of artifactual and contextual data from excavations, in most cases we cannot say whether the presence of Uruk material culture at a given survey site reflects exchange, local emulation, or an actual Mesopotamian settlement. For this reason, I only present the data from excavated sites in the following discussion of the evidence for an Uruk colonial network.

The south Mesopotamian implanted settlements are quite distinctive as intrusive sites, established in the midst of local Iranian, Syrian, and southeast Anatolian cultures. Several different forms of Uruk material culture—notably ceramics, architecture, and administrative technology—occurring together serve to identify the Mesopotamian implanted settlements while distinguishing them from contemporaneous local settlements (Sürenhagen 1986b:9–13). Multiple criteria are necessary because ceramics alone are not a reliable indicator of ethnicity (Kramer 1977; Santley et al. 1987).

A limited range of Uruk ceramic types, notably beveled-rim bowls, occur frequently at Late Chalcolithic sites in the central Zagros (Henrickson 1994; Weiss and Young 1975; Young 1986); north Syria (Algaze 1989b; Braidwood and Braidwood 1960; Fielden 1981; Schwartz 1988a; Wattenmaker and Stein 1989), and southeast Anatolia (Algaze 1989a; Algaze et al. 1991; Wattenmaker and Stein 1989; Palmieri 1985). At these sites, beveled-rim bowls invariably occur in association with a larger local chaff-faced ceramic as-

semblage, such as the characteristic “hammerhead bowls” of the local Late Chalcolithic in southeast Anatolia and the Habur headwaters region.

By contrast, only a few sites in these areas have the full repertoire of Uruk ceramics such as beveled-rim bowls, flower pots, bottles with droop spouts, four-handled jars and ceramic elements such as string-cut bases, crosshatched triangles, nose lugs, and diagonal “early” (Palmieri 1985:192) or “pseudo-” (Sürenhagen 1986b:26) reserved-slip decoration. Local ceramics tend to be rare or absent from sites or parts of sites that have the full Uruk ceramic assemblage.

The sites with the full Uruk ceramic repertoire also have distinctive Uruk domestic or public/ritual architecture. The south Mesopotamian tripartite “middle hall” house with keyhole-shaped hearths and an associated courtyard is typical of Uruk implanted settlements (Sürenhagen 1986b:10; Kohlmeyer 1996). Wall-cone-mosaic decoration is a second characteristic Uruk architectural element (Behm-Blancke 1989; Özten 1984). Similarly, niched façade temples are a distinctive Mesopotamian type of public building (Finet 1977; Van Driel and Van Driel-Murray 1979).

A third distinctive feature of the Uruk implanted settlements is the presence of south Mesopotamian administrative technology such as cylinder seals, bullae, tokens, and clay tablets with numerical inscriptions used to monitor the mobilization, transportation, storage, and disbursement of goods (Nissen 1985; Schmandt-Besserat 1978, 1981; Van Driel 1982, 1983; fig. 6.3).

Based on these criteria, researchers have identified Uruk implanted settlements at Godin in central western Iran (Weiss and Young 1975; Young 1986); at Brak and Nineveh in northern Mesopotamia (Algaze 1986a; Schwartz 1988b; Sürenhagen 1986b); and on the Syrian Euphrates at Qraya, Habuba Kabira, and Jebel Aruda (Reimer 1989; Strommenger 1980; Van Driel and Van Driel-Murray 1983; fig. 6.4). On the upper reaches of the Euphrates in Anatolia, excavations have identified Uruk implanted settlements at Hassek Höyük and have suggested more tentatively that they may also be present at Samsat and perhaps Tepecik (Algaze 1989b; Algaze et al. 1991; Behm-Blancke 1984, 1986, 1992; Esin 1982a,b).

Uruk implanted settlements seem to have been placed on the major trade and communications routes leading across Syria and northern Mesopotamia up toward the main source areas of copper, lumber, and semiprecious stones in the Taurus Mountains of eastern Anatolia and the Zagros highlands of Iran. Thus it has been argued that sites such as Gawra and Leilan, although close to hypothesized Uruk settlements at Nineveh, Brak,

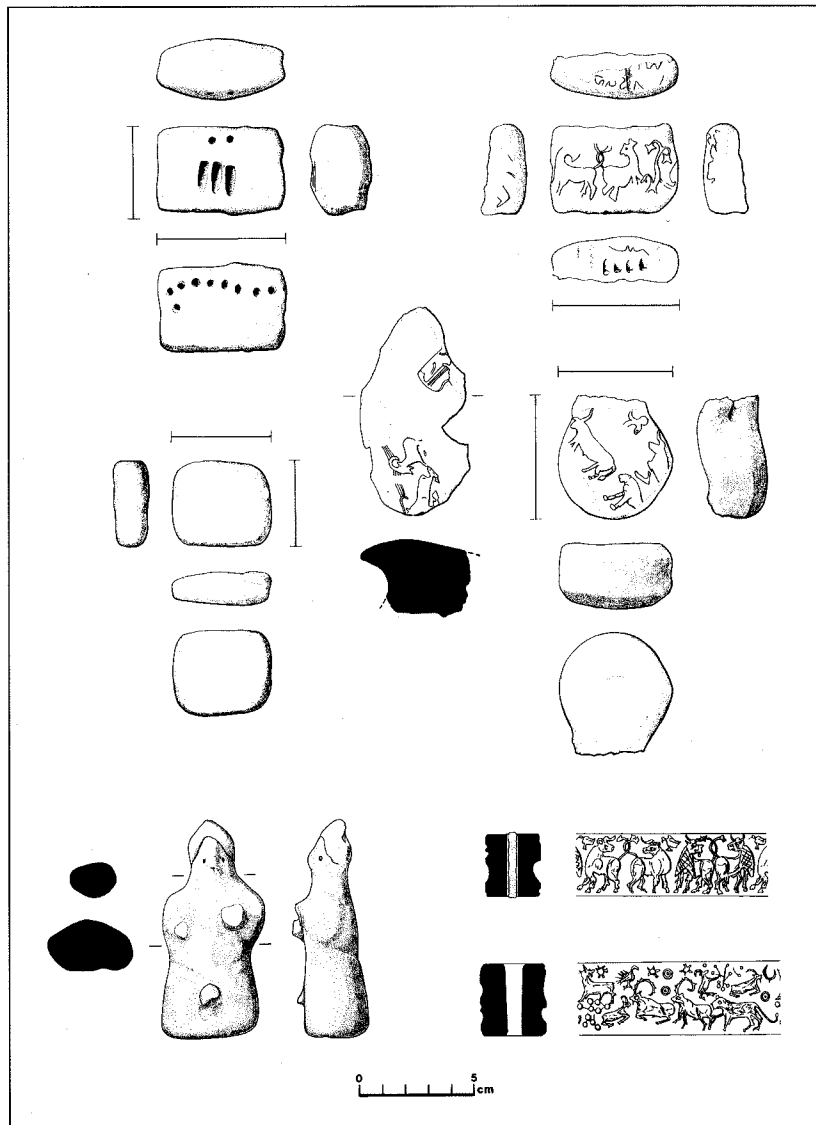


Figure 6.3. Items of material culture used to identify Uruk colonies: cylinder seals, sealings, and tablets from Godin V. Reproduced with permission from the Royal Ontario Museum and Dr. T. Cuyler Young Jr., project director.

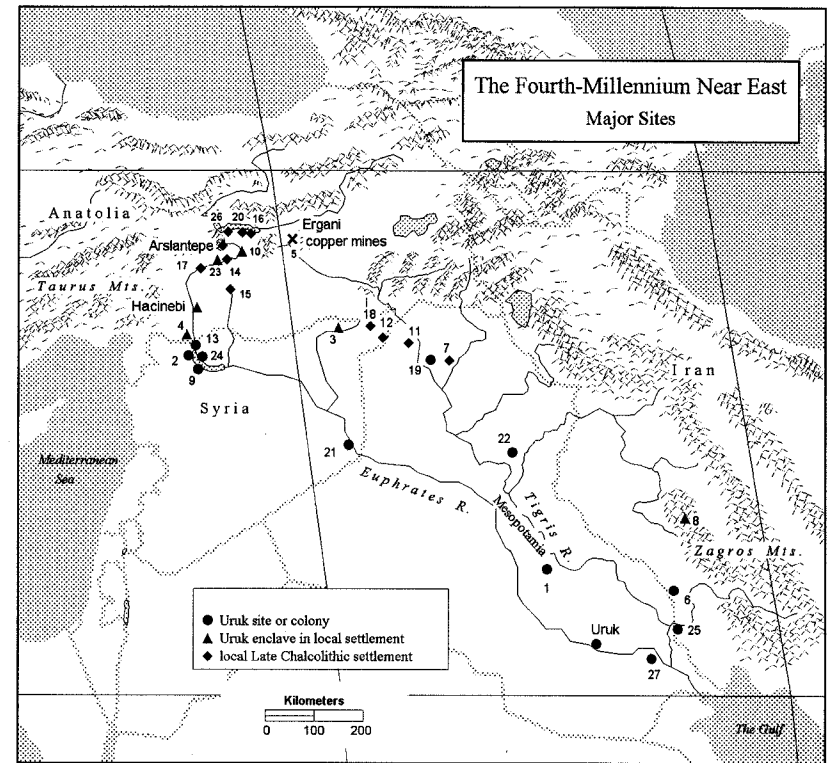


Figure 6.4. The fourth-millennium-B.C. Near East, showing Hacinebi, Arslantepe, Uruk, and other main sites mentioned in the text. (1) Abu Salabikh; (2) Aruda; (3) Brak; (4) Carchemish; (5) Ergani copper mines; (6) Farukhabad; (7) Gawra; (8) Godin; (9) Habuba Kabira; (10) Hassek; (11) Hawa; (12) Hamoukar; (13) Jerablus Tahtani; (14) Karatut Mevkii; (15) Kazane; (16) Korucutepe; (17) Kurban; (18) Leilan; (19) Nineveh; (20) Norşuntepe; (21) Qraya; (22) Rubeidheh; (23) Samsat; (24) Sheikh Hassan; (25) Susa; (26) Tepecik; (27) Ur. Drawn by Dr. John Hudson and Mary Costello, Northwestern University Geography Program.

and Hamoukar, retained a purely local character with no evidence for an actual south Mesopotamian presence because they were not actually located on the main communications routes (Rothman 1988; G. Schwartz 1988a,b).

Similarly, Uruk Mesopotamian ceramics drop off markedly with distance from the trade routes in the Iranian Zagros (Henrickson 1994). Other

factors, such as distance from southern Mesopotamia, or the relative power of local polities, may also have affected the nature and distribution of Uruk implanted settlements in the peripheral zones. As a result, one can identify at least four different types of settlements in Late Chalcolithic north Syria and southeast Anatolia (Algaze 1989b; Schwartz 1988b; Sürenhagen 1986b):

1. Settlements with exclusively south Mesopotamian assemblages. These are the sites most often identified as colonies, e.g., Habuba Kabira and Jebel Aruda on the Syrian Euphrates.
2. Distinct south Mesopotamian residential quarters located inside a local Late Chalcolithic settlement. Godin is the classic example of this type of outpost in Iran. Hassek Höyük, Hacinebi, and perhaps Tepecik are sites of this sort on the Upper Euphrates in southeast Anatolia.
3. Small local Late Chalcolithic sites close to, and culturally influenced by, the Uruk enclaves; e.g., Kurban Höyük and Karatut Mevkii in the Turkish upper Euphrates.
4. Local sites having only minimal direct interaction with the Uruk enclaves; e.g., Hamoukar in the Syrian steppe, Gawra and Tell el Hawa in northern Iraq, and Arslantepe in the highland Taurus resource zone of eastern Anatolia.

The political relationships between the Uruk colonies and their south Mesopotamian homeland remain unclear. We have no *a priori* reason to assume that the colonies formed a single integrated system controlled by a single south Mesopotamian city such as Uruk. Instead, the available evidence suggests that fourth-millennium southern Mesopotamia was composed of competing urbanized polities, each of which may have established its own colonies.

Nor do we know whether the implanted settlements were directly controlled by the cities of southern Mesopotamia, or if they were instead communities that had budded off, forming new independent polities that only retained cultural and economic ties with their mother cities (an analogy with the Greek colonies of the later Iron Age) (e.g., Graham 1983).

Archaeological investigations of the Uruk expansion have mainly focused on colonies or outposts so that we know much more about the Mesopotamian or Mesopotamian-related parts of the network than we do about the indigenous societies with whom they interacted. Habuba Kabira and Jebel Aruda are the most extensively excavated of the implanted settlements with exclusively Mesopotamian material culture; these two late Uruk sites form the basis for most interpretations of the organization of the Uruk expansion.

Habuba Kabira/Tell Qannas is a large, rectangular fortified settlement built on previously unoccupied land along the west bank of the Euphrates River, in an area of relatively sparse settlement by the local Late Chalcolithic population of north Syria (Strommenger 1980). The site was established in the late Uruk period and occupied for no more than one hundred fifty years before being abruptly abandoned. The absence of later occupations allowed the excavators to expose over 20,000 m² of the fourth-millennium town. Habuba Kabira was carefully planned and laid out in a grid pattern, with strong defensive walls on three sides, enclosing an area of at least 18 ha. The site was internally differentiated into a large residential area in the north distinct from an area of public buildings and temples on the acropolis of Habuba Kabira at the southern end of the settlement.

The residential parts of the site were divided into east-west and north-south oriented streets serviced by an elaborate drainage system of terra cotta pipes. The houses were the classic south Mesopotamian "middle-hall" ground plan, with keyhole-shaped hearths and a walled courtyard. The houses at Habuba Kabira follow Mesopotamian architectural conventions so meticulously that even the shapes and dimensions of the mud bricks exactly match the bricks of Uruk buildings in the southern alluvium.

The artifacts inside these houses also exactly match the material culture of Uruk south Mesopotamia. The most diagnostic Uruk ceramics include beveled-rim bowls, coarse flower pots, conical cups with string-cut bases, red-slipped four-lugged jars (often with incised crosshatched triangle decorations), storage jars with pseudoreserved-slip decoration, coarse ware trays and tall bottles with droop spouts (Sürenhagen 1986b:9–13).

At the south end of the site, on the Habuba Kabira acropolis, public/ritual architecture also follows canonical Uruk forms. The buildings are laid out in the tripartite plan with long central chamber and niched/buttressed walls. The temples are constructed of mud bricks conforming to standard Mesopotamian dimensions and are decorated with baked-clay wall cones (Finet 1977:111). The artifacts inside these public buildings are Uruk in style.

In addition to residential architecture, public buildings, and ceramics, Habuba Kabira has the full inventory of Uruk administrative technology. A variety of stone cylinder seals with drilled and carved geometric and figural motifs occur at the site. These were used to seal bullae filled with tokens, closures on containers (jars, baskets, etc.), and a small number of numerical tablets (Sürenhagen 1986b:10,19).

In short, Habuba Kabira and the nearby hilltop settlement of Jebel Aruda share the complete range of south Mesopotamian-Uruk material cul-

ture, differing noticeably from the local Late Chalcolithic settlements in north Syria and southeast Anatolia. The archaeological evidence from these sites is completely consistent with the criteria outlined by Santley for the identification of foreign enclaves implanted in the territory of other societies (Santley et al. 1987).

The small amount of imported local Syrian goods found at Habuba Kabira and Jebel Aruda highlight the intrusive nature of these settlements, while clarifying their relations with surrounding indigenous settlements. Habuba Kabira and Jebel Aruda imported specialized chipped-stone tool types such as fan scrapers and the large Canaanian blades that are typical of the local Late Chalcolithic cultures of the Levant and southeast Anatolia (Sürenhagen 1986b:19–20).

However, at both sites, sickle blades are extremely rare or altogether absent (Hanbury Tenison 1983:27), suggesting that the inhabitants of Habuba Kabira and Aruda were not harvesting their own crops. At the same time, neither settlement shows signs of the large-scale grain storage facilities that one would expect in a populous agricultural community (Algaze 1993b:62). It is significant that the most common forms of non-Uruk pottery at Habuba Kabira are local Late Chalcolithic chaff-tempered Amuq F large storage vessels. In several cases these contained charred remains of grain or oil residues. Given the absence of harvesting implements and granaries, coupled with the presence of grain in local jars, the excavators of Habuba Kabira suggest that the Uruk settlement was provisioned by the indigenous north Syrian population (Sürenhagen 1986b:21–22). Thus the Uruk settlements at Habuba Kabira and Aruda appear to have extracted food surpluses from the countryside. Several lines of evidence suggest that relations between the Uruk implanted settlements and local peoples were conflictual and grounded in coercion rather than cooperation. Habuba Kabira was surrounded by a massive mud brick defensive wall with bastions and reinforced gateways. Jebel Aruda, although unfortified, was constructed in a highly defensible position on a mountain spur overlooking the Euphrates. Both sites were abruptly abandoned and not reoccupied. The Mesopotamians seem to have established a short-term economic dominance over local groups, but were ultimately unable to maintain the military force necessary to perpetuate this system.

We should note that Habuba Kabira and Jebel Aruda are the largest excavated late Uruk implanted settlements. They are also the closest of all Uruk colonies to Mesopotamia proper. Given the spatial and temporal variation we have already noted in the organization of Mesopotamian trade and colonization, it may be risky to consider these settlements as typical of the

network as a whole. With increasing distance from the southern alluvium, the Uruk settlements take on a different character. All excavated Mesopotamian outposts, or “way stations,” in the more distant areas are small enclaves located in the midst of larger local Late Chalcolithic communities with whom they interacted closely. We know of at least four sites of this type: Godin and Sialk in west central Iran and the Taurus piedmont sites of Hassek and Hacinebi. The size of the implanted settlements, the range of Uruk material culture, and the degree of Uruk economic, political, or military power over local communities all decrease markedly with increasing distance from the south Mesopotamian alluvium.

Godin occupies a strategic position in the Kangavar Valley along the main access route from Mesopotamia into the west central Zagros Mountains. The area identified as an Uruk implanted settlement is Godin V, an oval enclosure at the top of the mound, surrounded by the preexisting indigenous settlement of Godin VI. This was clearly an isolated foreign presence in the territory of the local highland culture. All of the other 39 settlements in the Kangavar Valley have exclusively local Godin VI ceramics, with only the occasional beveled-rim bowl sherd to show that they are contemporaneous with the Uruk presence at the summit of Godin (Young 1986:218).

Mesopotamian material culture is tightly concentrated within the oval enclosure. This area has the full range of Uruk administrative technology, including jar sealings, cylinder seals and 43 seal impressed numerical tablets or tablet fragments, with close stylistic parallels to the late Uruk levels of Susa Acropole 17 (Weiss and Young 1975:11–13). However, at the same time it is clear that the Uruk presence at Godin differed notably from the organization of sites such as Habuba Kabira or Aruda. In contrast with the 18 ha size of Habuba Kabira, the Uruk settlement in the oval enclosure of Godin V is tiny: probably no more than 45 x 30 m large (based on excavator's assessment that two thirds of the compound was exposed inside a local settlement of 7–9 ha; Young 1986:213). Instead of Mesopotamian styles of temples and middle-hall houses, the architecture of the Godin V Uruk settlement is purely local in plan and construction (fig. 6.5).

Despite the presence of a wide range of Uruk diagnostics such as beveled-rim bowls, four lugged jars, coarseware trays, and bottles with droop spouts, about half of all ceramics found inside the oval enclosure are local pottery types (Algaze 1993b:53). Although the enclosure was bounded by a narrow wall, there is no evidence for armed conflict between the people in the enclosure and their neighbors in the Godin VI settlement. Thus, the evidence suggests that while lowland Mesopotamians were probably present at Godin, they were not colonial masters, but rather a small, tolerated trade-

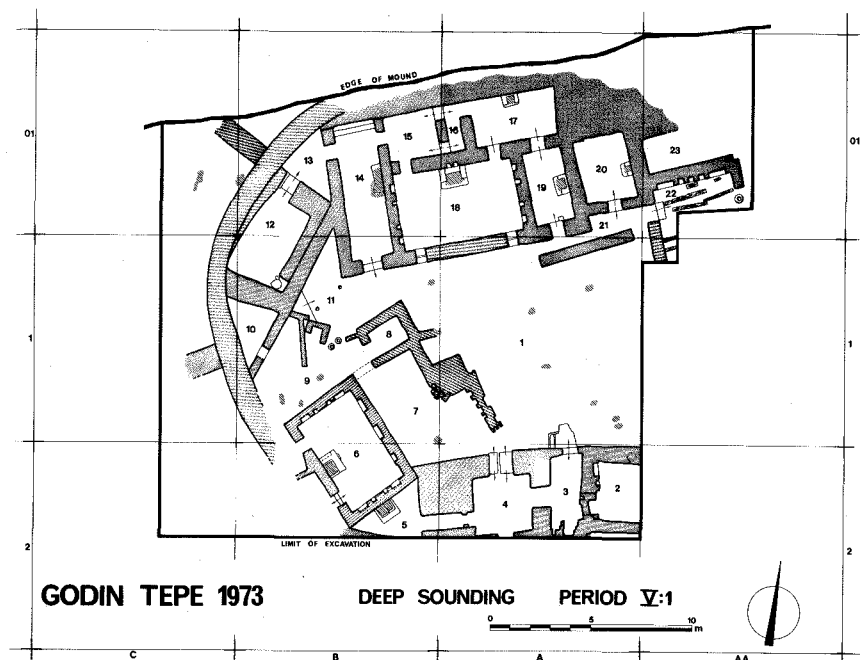


Figure 6.5. Oval enclosure, site of the hypothesized Uruk enclave at Godin V. Reproduced with permission from the Royal Ontario Museum and Dr. T. Cuyler Young Jr., project director.

diaspora who interacted closely with its local host community in a system of mutually beneficial economic relations (Young 1986:226).

The isolation, small scale, and fragility of the Mesopotamian presence in distant highland areas is even more pronounced at Tepecik near the copper sources of eastern Anatolia. This represents the northernmost hypothesized Uruk outpost, or way station, in Anatolia (Esin 1982b). At Tepecik, the Uruk materials are no more than a concentration of beveled-rim bowls, spouted vessels, red-slipped and reserved-slip storage jars in one (local style?) stone-built house isolated on the southwest slope of the mound (Esin 1982b:110–114, plates 69, 72). No Mesopotamian administrative technology was recovered at Tepecik. In fact, the spatial segregation of the house and its associated Uruk ceramics are the main evidence from which an Uruk outpost has been inferred; other researchers consider Tepecik to be a local Late Chalcolithic settlement that was influenced, rather than inhabited by Uruk Mesopotamians (Frangipane 1993:fig. 13).

The examples of Habuba Kabira, Godin, and Tepecik show that the Uruk expansion formed a heterogeneous network of interaction with the local polities of Syria, the Zagros, and the Anatolian highlands. Mesopotamian settlements and material culture cluster along historically known routes of trade and communication. Interaction between Mesopotamians and local polities within this network almost certainly consisted of three different and often overlapping forms: exchange, emulation, and the establishment of actual Uruk settlements in the territories of local polities.

Throughout the Uruk expansion, i.e., in both the middle and late Uruk periods, the degree to which any one of these three processes might have predominated in a given region varied depending on local conditions. Using a combination of explicit excavation-based criteria for the identification of colonies in general and the presence of Mesopotamians in particular, we can identify Uruk implanted settlements at a number of points along the trade routes. In those areas closest to southern Mesopotamia proper, colonies such as Tell Sheikh Hassan (in the middle Uruk period) and Habuba Kabira (in the late Uruk) were large fortified settlements that apparently used coercion to exert economic influence over the sparsely populated local Syrian communities around them.

In more distant regions with larger populations, Mesopotamian settlements such as Hacinebi (in the middle Uruk; see below) and Godin V (in the late Uruk) took the form of small outposts, or way stations, located inside the preexisting towns of local polities. In contrast with the apparent social isolation of the colonies at Habuba Kabira and Jebel Aruda, the large amounts of local material culture in the more distant Uruk outposts suggest that the latter interacted very closely with their host communities.

We have no evidence to suggest that these outposts dominated local economies through asymmetric exchange or coercion. Instead, the small numbers and vulnerable position of the Mesopotamians at Godin and other outposts meant that they could only survive by remaining on good terms with their more powerful indigenous neighbors.

At the outermost edges of the Uruk interaction network, Mesopotamian material culture at sites such as Tepecik is so sparse that it becomes difficult to determine whether it reflects the actual presence of a Mesopotamian outpost or simply a process of emulation by a small subset of the local population. These differences suggest that the organization of these settlements and the ways they interacted with their local neighbors varied considerably, depending on a number of factors, most notably: the distance from Mesopotamia, the size of the local population, and the degree of preexisting social complexity in the indigenous polities.

Local Late Chalcolithic Polities in the Steppe and Highland Zones

The allure of Uruk Mesopotamia as the world's earliest urbanized, literate, and colonial state society has affected the structure of archaeological research so that we know far more about Uruk implanted settlements than we do about the local Late Chalcolithic societies in Syria, the Zagros Mountains, and southeast Anatolia during the fourth millennium B.C. This gap in our knowledge builds a serious bias into our research; without a local baseline for comparison, we cannot evaluate either the nature of the Uruk expansion or its effects on trajectories of indigenous development in the steppe and highland zone.

In discussing the limited available evidence for local Late Chalcolithic sociopolitical organization in southeast Anatolia, we need to focus separately on both the precontact phase (ca. 3900–3700 B.C.) and the later contact phase (3700–3100 B.C.) when interaction with Uruk Mesopotamia was at its peak. This precontact phase roughly corresponds to Amuq phase F in the ceramic chronology of southeast Anatolia and northwest Syria, whereas the contact phase correlates with Amuq G (Braidwood and Braidwood 1960). By the early fourth millennium (ca. 3900–3600 B.C.), while urbanized state societies were developing in Early Uruk southern Mesopotamia and Khuzestan, the highland and piedmont zones of southeast Anatolia were apparently organized into a mosaic of smaller scale, less complex polities that can be characterized as chiefdoms (Algaze 1993b:96).

The limited available data suggest a high degree of variability in the economic and political systems of Late Chalcolithic southeast Anatolia. The areas controlling the actual copper and lumber resources in the eastern Taurus highlands seem to have been more developed than the local communities immediately adjacent to the Uruk enclaves of the piedmont zone. The most complex of these local polities may have been located in the steppe zone of north Syria and north Mesopotamia.

Site size data suggest that local Late Chalcolithic centers of the north Syrian/north Iraqi steppe zone such as Hammam et Turkman (15 ha?), Leilan (15 ha?), Tell Barri (20 ha), Hamoukar (250 ha), Tell el Hawa (30–50 ha), and Brak (43+ ha) were significantly larger than the 2–3 ha average size of local centers in the piedmont and highland zone of southeast Anatolia (Algaze 1993b:92–95; G. Schwartz 1998). Our best evidence for local Anatolian sociopolitical organization in this period derives from the ongoing Italian excavations at Arslantepe/Malatya in southeastern Turkey (Frangipane 1993; Frangipane and Palmieri 1987; Palmieri 1977, 1981, 1985).

Much of Arslantepe's developmental history stems from its strategic location in the upper Euphrates River valley near the major copper sources of the eastern Taurus Mountains. The two main occupation phases of concern to us here are Arslantepe VII (the precontact phase of the local Late Chalcolithic) and the subsequent Arslantepe VI-A (the period of maximum interaction with late Uruk Mesopotamia, ca. 3400–3100 B.C.).

Arslantepe VII had traditionally been interpreted as a settlement having a complex social structure, perhaps not fully stratified, but with an evident handicraft specialization as evidenced from the artifacts, which included numerous metal objects, with new forms of labor organization, evidenced from the substantial presence of pottery mass production, and also the frequent use of potters' marks, but without any evidence of central institutions playing a major socioeconomic role (Frangipane 1993:135).

Arslantepe VII apparently occupied the full extent of the modern mound, and thus was the same size as the later Arslantepe VI-A settlement during the time of Uruk contact. Large-scale nondomestic architecture suggests that the period VII town was internally differentiated. Period VII public buildings were uncovered at the highest part of the Late Chalcolithic mound in the west-southwest area that continued to serve as the main public part of the settlement throughout the fourth millennium. The most notable of these was a monumental mud-brick public building with walls 1.2 m. thick, mud-brick pillars, and red and black wall paintings on a thick plastered surface (Frangipane 1993:139). The rooms inside this structure contained numerous lumps of sealing clay, but no seals. Also present was a clay "hut symbol," known from sites such as Gawra and presumed to be some kind of ritual figure (Frangipane 1993:142).

Several lines of evidence suggest that craft specialization and mass production characterized Arslantepe VII. Room A617 in the monumental mud-brick building contained evidence for developed metallurgy: both finished products, such as pins and chisels, and pieces of unprocessed copper ore (Frangipane 1993:147). Additional evidence for the importance of large-scale metallurgy in early-fourth-millennium eastern Anatolia comes from the nearby site of Norşuntepe, where smelting furnaces, crucibles, and copper slag are found throughout the Late Chalcolithic sequence (Hauptmann 1982:60–61).

In addition to metallurgy, specialized mass production of ceramics also seems to have become fully established in Arslantepe VII. Wheel-made bowls with string-cut bases and internally beveled lips are common by the end of this period (Palmieri 1985:194). Potters marks on the phase VII vessels provide good evidence for specialized mass production (Trufelli 1994). In addition, ceramics from this period generally have dark, unoxidized cores,

suggesting that they were rapidly fired at high temperatures. This firing technique is often employed in ceramic mass production in order to economize on fuel use (Frangipane 1993:154).

Although no burials have been recovered as yet from Arslantepe VII, contemporaneous burials at Gawra and Korucutepe show signs of clear social differentiation in the richness of their grave offerings and abundance of precious metals (Frangipane 1993:159; Palmieri 1985:196). Similarities between the two sites in ritual items, such as the "hut symbols," and status objects, such as limestone maceheads, suggest a broadly shared social and symbolic system among the communities of the north Syrian-Mesopotamian steppes and the Anatolian highland zone: "The general picture of the local Late Chalcolithic communities on the upper Euphrates seems to be that of groups with advanced craft specialization, and with a tendency toward social differentiation, which however do not show any strong centralization" (Palmieri 1985:196).

The subsequent Arslantepe VI-A occupation shows the first evidence for Mesopotamian interaction. Ceramic parallels and radiocarbon dates both indicate that, at Arslantepe, this development began in the late Uruk period (ca. 3400–3100 B.C.), some three to four centuries after the beginning of Uruk expansion into southeast Anatolia. Although there are many continuities with the earlier period VII settlement, Arslantepe VI-A also shows signs of increasing political complexity, economic centralization, and reorientation of long distance exchange relations.

There are clear signs of Uruk contact with Arslantepe, but only minuscule amounts of Mesopotamian material culture—a few spouted bottles and beveled-rim bowls—are present at the site. Direct contact with Mesopotamians would thus appear to have been limited. However, several lines of evidence suggest that local elites at Arslantepe emulated some prestige-related aspects of Mesopotamian iconography and administrative organization.

The VI-A settlement has two temples and a building interpreted as a possible palace with associated storerooms (Frangipane 1997a,b). Significantly, the temples are not Mesopotamian in form or style, but instead conform to local Anatolian ground plans. Associated with these structures are several caches containing thousands of discarded seal impressions, which have been used to reconstruct the administrative practices of the Arslantepe polity (Feroli and Fiandra 1983; Frangipane and Palmieri 1989). The concentration of the sealings in a few administrative buildings, rather than in numerous residences, is interpreted as evidence for an increase in both political and economic centralization in Arslantepe VI-A.

The vast majority of these administrative artifacts are impressions of

local Anatolian-style stamp seals with their distinctive caprid and feline motifs. Examination of the reverse sides of the sealings show that they were affixed to door locks and a variety of containers such as jars and cloth or leather sacks. The distributions of these sealings indicate that some containers were opened at the entrance to the town. The deformed shapes of the sealings indicate that the clay was still moist when the container closures were removed. This in turn suggests that the containers had not traveled far from their point of sealing to their point of opening. The excavators interpret this as evidence for the importance of local exchange (or tribute collection) rather than long distance trade.

Other local stamp seal impressions on door locks and container sealings inside storerooms imply the existence of some kind of redistributive system associated with the palace. This has been interpreted as evidence for increasingly centralized control over the regional economy.

A small subset of the seal impressions found at Arslantepe are those of Mesopotamian-style cylinder seals. The use of this foreign sealing technology alongside the local system of stamp seals is significant. Stylistic analyses of the cylinder-seal motifs suggest that these are locally made Anatolian versions of Mesopotamian prototypes. In some cases, the inhabitants of Arslantepe simply transposed traditional Anatolian motifs and conventions of representation from stamp seals onto cylinder seals. But in at least one instance, they copied a clearly Uruk Mesopotamian motif: that of a king sitting on a sledge pulled by a bull and attended by several servants (Frangipane 1997:fig. 16).

As Mary Helms has noted, foreign goods or styles often embody exotic knowledge and, hence, prestige (Helms 1988). It would thus be both natural and expected that Anatolian rulers would borrow material culture and iconography associated with powerful Mesopotamian kings, regardless of the political or economic relationship between the two areas. The adoption and transformation of Uruk's administrative technology and royal iconography strongly suggest the development of increased social complexity in Arslantepe VI-A and the emulation of Mesopotamian symbolism as a way to legitimate the status of local ruling elites.

Craft and subsistence production show signs of development as well. Ceramic mass production continues from the earlier period VII, emphasizing the manufacture of wheel-made bowls with string-cut bases. These are thought to be ration bowls distributed by the central administration in a system analogous to the hypothesized use of beveled-rim bowls as ration containers in Uruk Mesopotamia.

Analysis of faunal remains shows an increase in sheep bones during

period VI-A; this may indicate a shift toward wool production as part of a palace-controlled pastoral economy (Palmieri and Frangipane 1986:40). Metallurgy continued to hold an important position in the Arslantepe economy, as shown by a horde of copper swords found near the entrance gate to the settlement.

Arslantepe VI-A, then, shows evidence for a centralized bureaucracy using both Anatolian and Mesopotamian styles of administrative technology to monitor the collection, storage, and disbursement of goods. Many of the products moving in and out of the palace and temple storerooms were locally exchanged agricultural and pastoral goods.

There is no real evidence for long-distance exchange, with the possible exception of the few Uruk bottles with droop spouts found in the palace storerooms. These may have been used to transport or store some kind of liquid import from Mesopotamia. There is no sign that Mesopotamians were resident at the site, or even that they were frequent visitors. Nor is there any evidence that Mesopotamians dominated the exchange system.

Instead, the production and exchange of subsistence goods, utilitarian crafts, and metal objects seems to have been securely under the control of the local rulers of Arslantepe. The most important Uruk impact on Arslantepe would appear to have been ideological; emergent local rulers emulated Mesopotamian conventions of kingship and administrative practices, transforming them into Anatolian cultural schemata to consolidate their own locally based power.

The major question we need to ask is whether long-distance trade with Mesopotamia was the main factor that caused the observed increase in social complexity during Arslantepe period VI-A. Does correlation imply causation here? The minimal evidence for direct Mesopotamian-Anatolian interaction strongly suggests that this was not the case. Instead, several lines of evidence seem to indicate that largely indirect exchange relations with Mesopotamia only accelerated a developmental process that was already well underway in the earlier period VII.

First, we must recall that ideological, economic, and political power or influence are far from identical. I noted earlier that core ideologies are more easily transported than core military power or trade goods. We must also recall that Arslantepe lay beyond the northern limits of actual Uruk implanted settlements. It would not be unusual to see selective local borrowings of Mesopotamian elite symbolism, even in the absence of strong Mesopotamian economic influence.

Second, there is very little evidence at Arslantepe for high volumes of long-distance trade. We see almost no sign of Mesopotamian imports at the

site, although this may simply be due to the perishable nature of the hypothesized trade items. If long-distance trade were the critical factor in the Arslantepe political economy, then we would expect to see signs of a reorientation of production toward exports as the complement to the hypothesized Mesopotamian imports. This does not appear to be the case. Instead, craft production, subsistence production, exchange, and administration all show a surprisingly strong local orientation at Arslantepe.

This situation appears to parallel Schortman and Urban's analysis of interaction between the Naco Valley of Honduras and the Maya at Copan: elites in the smaller, less developed polity borrowed prestige symbols from the more developed state, while retaining control over the local economy. In this system, long-distance exchange took place in small volumes under control of the indigenous elites and was economically secondary to the economy of local production and exchange (Schortman and Urban 1994).

Although the Arslantepe data suggest a surprisingly high level of sociopolitical complexity in the Taurus highlands, until recently we had little data for the local settlements in closest contact with the Uruk implanted settlements in the Taurus piedmont zone. It is clear from differences in the ceramic distributions that the Taurus highlands and the piedmont area to the south formed two distinct regions (Palmieri 1985:200).

In contrast with the relative cultural homogeneity of the highlands, archaeological surveys of the areas immediately to the south in the Karababa basin of the Euphrates Valley (Özdoğan 1977) suggested that both Uruk implanted settlements and local Late Chalcolithic settlements were present in the piedmont area. We can thus consider the Taurus piedmont as the zone of primary contact between Uruk Mesopotamia and the local Late Chalcolithic cultures of southeast Anatolia.

Excavations at the local Late Chalcolithic site of Kurban Höyük in the Karababa revealed a well-stratified sequence showing increasing Mesopotamian influence on the indigenous ceramic assemblage in the late fourth millennium (Algaze 1986b, 1990). Soundings at the local Late Chalcolithic site of Karatut Mevkii also show the presence of late Uruk ceramics in indigenous assemblages (Schwartz 1988b).

Unfortunately, the limited spatial extent of Late Chalcolithic exposures at Kurban Höyük and Karatut precluded any reconstruction of sociopolitical organization at these sites or investigations of the nature of their interaction with the Uruk settlements.

German excavations at Hassek Höyük uncovered a settlement described by the excavator, Behm-Blancke, as an Uruk outpost with typical Mesopotamian tripartite houses, wall cones, ceramics, and glyptic, associated with a

local Late Chalcolithic settlement, at a strategic river crossing in the Taurus piedmont zone (Behm-Blancke 1981, 1983, 1984, 1986, 1992; see Helwing 1996 for an alternative view).

However, excavations here focused on the Uruk part of the settlement, with little attention paid to the local component of the site or interaction between the two groups. These excavations and surveys revealed the range of variation in local and Uruk settlement types in late-fourth-millennium southeast Anatolia, setting the stage for the first attempts to model the dynamics of the Mesopotamian expansion.

The Uruk Expansion and World-System Models

The organization and purpose of the Uruk implanted settlements in southeast Anatolia, north Syria, and Iran remain the subject of continued debate. Making an analogy with the Greek colonies of the eighth century B.C., Schwartz proposes that some Uruk settlements (e.g., Hassek Höyük) were emporia or trading outposts, whereas particularly large sites such as Habuba Kabira and possibly Brak were colonies that combined commercial functions with the settlement of excess Mesopotamian population on easily available agricultural land (Schwartz 1988b). Other researchers have suggested that the Uruk settlements are actually indicators of an Uruk collapse, rather than a commercial expansion (Johnson 1988–89).

The most widely discussed interpretation sees the Uruk implanted settlements as trading colonies or way stations whose exclusive purpose was to insure south Mesopotamian access to Anatolian and Iranian resources, such as copper and perhaps lumber, as part of a prehistoric world-system (Algaze 1989, 1993a,b; Frangipane and Palmieri 1987, 1989; Sørensen 1986b).

In the most comprehensive formulation of this model, Algaze draws on world-system theory to suggest that the Uruk expansion represents a Mesopotamian informal empire characterized by economic hegemony rather than direct administrative control over western Iran, north Syria, north Mesopotamia, and southeast Anatolia (Algaze 1989, 1993a,b).

In this view, Mesopotamian complex societies could not have maintained themselves or developed further without secure and regularized access to the resource base of the Anatolian and Iranian highlands. "A reliable flow of resources had to be ensured at all costs, then, since interruptions would have resulted in politically unacceptable socioeconomic dislocations: the reproduction and growth of the social order was predicated on the pro-

duction of the exportable surpluses that, short of war, assured access to resources not available in the Mesopotamian lowlands" (Algaze 1993b:5).

In other words, the continued survival of Mesopotamian complex societies required them to maintain an export-driven economy based on extremely high levels of output in both agricultural and pastoral production (because these were the only native Mesopotamian resources). The pattern of trade in the Uruk informal empire would have been "largely based on the exchange of wholly or partially manufactured goods from the alluvium for unprocessed raw materials from the periphery" (Algaze 1993b:4). In this view, long-distance exchange functions as the critical variable which explains trajectories of development in both the core and the periphery of the Uruk world-system.

Mesopotamian demand for raw materials led to the establishment of a network of trading colonies and outposts that obtained metals, lumber, and semiprecious stones from the highland periphery through an Uruk-dominated asymmetric exchange system. Algaze argues that the developmental differences between the highly complex urbanized states of Mesopotamia and the smaller-scale, nonurbanized, chiefdoms of the periphery virtually assured that exchange between the two areas would take place on unequal terms favoring the Uruk core.

Initially, exchange between the Mesopotamia and the periphery would have spurred the development of sociopolitical complexity in these areas by strengthening the power of local elites with preferential access to prestige goods from the core. But in the long run, the peripheral polities would have become underdeveloped, dependent peripheries as their economies became increasingly specialized in the production of raw material surpluses for export to the Mesopotamian core (although Algaze suggests that this growing dependency relationship was ultimately forestalled by the collapse of the south Mesopotamian core at the end of the fourth millennium; see Algaze 1989; 1993).

In this view the Uruk informal empire (Algaze 1993b:9–10) took several different forms, depending on local conditions. Algaze suggests that Susa and the Susiana plain, the closest areas to Mesopotamia proper, were directly and completely colonized by Uruk peoples. In the more distant plains and piedmont regions of northern Mesopotamia, Syria, and southeast Anatolia, Uruk Mesopotamians established a small number of colonial enclaves that functioned as gateway communities to regularize the flow of trade in strategic locations along critical access routes connecting the southern alluvium and the periphery (Algaze 1993b:61).

These enclaves, consisting of centers and smaller settlements around

them, were either established *de novo* on unoccupied land, as in the case of Habuba Kabira, or were superimposed by force on preexisting local centers such as Carchemish or Samsat in the Anatolian piedmont. The Uruk enclaves are seen as exercising "an overwhelming influence, if not outright control over the long distance trade economy" (Algaze 1993b:111) in the local Late Chalcolithic communities immediately around them, causing considerable disruption of the preexisting sociopolitical structures.

The enclaves are thought to have controlled both the overland trade routes and also waterborne traffic along the Euphrates and Tigris Rivers between southern Mesopotamia and the northern highlands. But it is suggested that the foreigners focused their efforts only on the areas immediately surrounding the strategic locations of their enclaves and made no attempt to control the hinterlands at greater distances.

Algaze identifies three areas as Uruk enclaves in the Euphrates River valley. The southernmost enclave, located in the Tabqa Dam area on the Syrian middle Euphrates, comprised Habuba Kabira, Jebel Aruda, Tell Sheikh Hassan, and a number of smaller settlements spread over an area approximately 10 x 20 km. As described earlier in this chapter, broad horizontal excavations have been conducted at all three of these sites (especially at Habuba Kabira), making this the best understood complex of implanted settlements associated with the Uruk expansion.

The second hypothesized Uruk enclave on the Euphrates is centered at Carchemish, on the modern border between Turkey and Syria. In addition to Carchemish itself, Uruk sites in the enclave include Jerablus Tahtani, Şadi Tepe, Kum Ocağı, Tiladir, and Komeçli, in a central 15 km stretch of the river, with other small village-sized sites extending an additional 25 km upstream (Algaze 1989; Algaze et al. 1994). The identification of this area as a colonial enclave is based on finds of Uruk ceramics in limited excavations conducted at Carchemish in the early twentieth century.

All other Uruk sites in this enclave are known only from surface survey data, with the exception of Jerablus Tahtani, where excavations by Peltenburg have investigated this village outlier of Carchemish (Peltenburg et al. 1995, 1996, 1997). Excavations at Hacinebi, at the north edge of the Carchemish enclave, investigate the role of local Late Chalcolithic communities in this system and are described in the next chapter.

The northernmost and probably most problematic of the hypothesized Uruk enclaves is centered on Samsat in the Karababa basin approximately 100 km to the north of the Carchemish cluster. The only extensively excavated Uruk implanted settlement in this area is Hassek Höyük (Behm-Blanke 1981, 1983, 1984, 1986, 1989, 1992), identified as an Uruk outpost or

way station ca. 50 km north of Samsat. Although Samsat is thought to have been the central settlement in this enclave, its Uruk occupation is known only from surface collections (Özdoğan 1977:130–134) and limited deep soundings on the 17.5 ha high mound (Özgüç 1988, 1992; Özten 1984).

The imposition of an Uruk settlement on the preexisting local Late Chalcolithic settlement is inferred from finds of Uruk ceramics, clay wall cones, and cylinder seals (although at least one of the latter may be a provincial imitation of an Uruk prototype). All of the six village sites in the immediate vicinity of Samsat appear to be local Late Chalcolithic settlements with some Uruk ceramics, rather than implanted Uruk settlements (Algaze 1993b:34–35). In effect, Samsat and Hassek Höyük are the only Uruk settlements postulated for this enclave.

In the highlands beyond the steppe and piedmont zone, Algaze suggests that the Mesopotamian informal empire took the form of small outposts or way stations established inside local communities such as Godin at critical points along the access routes to the sources of copper, lumber, and semiprecious stones. Local communities in the highland source zones themselves remained politically autonomous; however, southern Mesopotamia is seen as economically controlling them through a monopoly over the long-distance trade routes rather than the sources of production. Algaze suggests that through a combination of outright colonization, the establishment (by force when necessary) of strategically placed large enclaves, and the emplacement of outposts or way stations along key routes of access to critical raw materials, the urbanized states of the Mesopotamian alluvium were able to tap into, divert, and control the flow of trade into a new network, oriented toward Mesopotamia under their own exclusive control. Thus, regardless of the variation in the organization of interaction in different parts of the network, the overall impact of Uruk Mesopotamia on neighboring polities is considered to be "a system of relationships of dependency and domination on an imperial scale" (Algaze 1993b:6).

In the standard world-system/dependency models of Frank (1967) and Wallerstein (1974a), one would expect the initial surge in peripheral social complexity to be followed by stagnation, as the latter areas are forced into economic dependency and overspecialization in the production of raw materials to supply the core in a system of asymmetric exchange.

Algaze suggests that this development of underdevelopment was truncated by a collapse of the core area itself at the end of the late Uruk period ca. 3100 B.C. (Algaze 1993b:105). In this view, the Mesopotamian core overintensified irrigation agriculture and pastoral production to generate the surpluses needed for export to the periphery. This overintensification is

thought to have led to salinization, declining agricultural yields, and a general collapse of the Uruk world-system due to the destruction of its economic base.

As a result, Algaze suggests that the polities of the northern periphery were able to break free of Uruk control, force out the intrusive Mesopotamian settlements, and take control over the interregional exchange network. This scenario explains the destruction of Uruk outposts such as Hassek Höyük, along with the abandonment of the enclaves around Carchemish and Habuba Kabira. Under these conditions, Algaze argues, the polities of the northern periphery were able to continue their development unchecked, so that they developed fully urbanized state societies by the mid-third millennium B.C. (Algaze 1993b:107).

Problematic Aspects of the Uruk Expansion as a Prehistoric World-System

Algaze's model provides the first comprehensive reconstruction of the organization and dynamics of interaction between Uruk Mesopotamia and its neighboring polities to the north and east. This model is especially significant because it recognizes the existence of tremendous spatial variation in both the forms of the Uruk implanted settlements and in their interaction with local polities. Algaze suggests that two of the most important factors structuring interaction in this system were (a) the degree of local socio-political complexity in the areas of Uruk penetration (Algaze 1993b:113) and (b) the corrosive effects of distance on the Mesopotamian ability to control every aspect of the interregional economy: "[D]irect exploitation of distant resources was prohibitively expensive and time consuming. Under such conditions, the highland resources coveted by Uruk states were more easily and cheaply obtained by allowing indigenous communities already exploiting them to continue, provided they could be persuaded or coerced (by means of the intrusive settlements in the nearby plains) into trade at terms favorable to the alluvium" (Algaze 1993b:114).

Since the original publication of *The Uruk World System*, Algaze (1998) has modified many of his views in response to more recent fieldwork. However, in its most widely cited form, the most problematic aspects of this model remain its acceptance of Wallerstein's three assumptions of core dominance, inherently asymmetrical exchange, and trade as the prime mover of social development. These assumptions do not fit well with the available data for the economics and the politics of the Uruk colonial network in Anatolia.

Until recently, in the absence of good archaeological data from local sites in Syria and Anatolia, researchers have simply assumed the existence of tremendous technological, economic, and power asymmetries between Mesopotamia and its neighbors. However, excavation results from the Keban and Karababa salvage projects in southeast Turkey suggest that this does not seem to have been the case in the late fourth millennium B.C. Technologically, Mesopotamia and Anatolia were at comparable levels of development. The evidence from Tepecik, Norşuntepe, Arslantepe, and other highland Anatolian sites suggests that the peoples in this so-called periphery had very advanced copper metallurgy at an early date. They were mining, smelting, and casting copper into ingots and finished products (Esin 1982b:109; Hauptmann 1982:60–61; Koşay 1976:193). If anything, the Anatolians were trading highly processed, technologically advanced products to Mesopotamia, not unfinished raw materials.

This is the exact opposite of the kinds of asymmetric resource exchanges that one would expect in a standard dependency theory scenario (Stein 1990:67) and is consistent with Kohl's (1987) suggestion that essential technological parity existed among many of the hypothesized cores and peripheries of the Old World in the third millennium B.C.

Similarly, there is little evidence for fundamental economic or power asymmetries between Mesopotamia and Anatolia in either productive systems or exchange. By all accounts, the highland peoples controlled primary production at the raw material sources and the initial stages of exchange. We have no evidence that the Mesopotamians actually dominated the exchange system; this is an assumption that needs to be tested against actual archaeological data. Most of these Mesopotamian settlements at strategic points along the trade routes were located inside local settlements.

As Algaze notes, it would have been impossible for these intrusive settlements to have survived without the support and cooperation of the local polities. I suggest that this was also the case for the hypothesized Uruk enclaves at Carchemish and Samsat. We have no evidence to support the idea that these sites were forcibly taken over by Mesopotamians. Given the distances from the southern alluvium, it is extremely unlikely that the Mesopotamians could have brought to bear enough force to capture the two largest centers in the upper Euphrates Valley.

A more parsimonious explanation would be that the Uruk presence at Carchemish and Samsat took the form of trade quarters in a larger local settlement. In other words, instead of being the centers of enclaves, Carchemish and Samsat more closely resembled the kinds of trade outposts that have been archaeologically documented in other parts of the interaction network. Thus, at Godin, where Uruk and local Late Chalcolithic groups

inhabited the same community, the foreigners were there at the sufferance of the more numerous and powerful local population. Another example of this type of trade-diaspora organization is the site of Hacinebi, which I describe in detail in the next chapter.

Interregional exchange relations between trade-diasporas and host communities in the fourth-millennium Near East were almost certainly affected by a distance-decay in power relations. The distance from the city of Uruk to the copper and lumber sources of Anatolia is about 1,300 kilometers, all of it upstream. This would have seriously impeded the Mesopotamians' ability to project any kind of power or coercive force into the upper Euphrates Valley. At the same time, the upstream transportation costs for this great a distance would have limited Mesopotamian exports to those items whose value was extremely high relative to their weight and bulk (cf. Drennan 1984a,b for a similar situation in Mesoamerica).

When one combines the technological parity of the two areas with the leveling effects of distance, small groups of Mesopotamian colonists or traders could only have survived physically and economically at the sufferance of the local people. As a result, whatever power asymmetries might have existed would have been the opposite of the kind assumed by world-system models. Thus the effect of distance would have been to create an essential parity in economic and political relations between Uruk Mesopotamia and the local Late Chalcolithic polities in the Taurus piedmont zone.

The final problem with the application of the world-system model to the Uruk expansion lies in its assumption that long-distance trade or exchange is the prime mover of economic and social change (Areshian 1990:397). It is extremely difficult to measure the economic importance of long-distance exchange to the local Late Chalcolithic societies of Anatolia. One cannot simply assert the causal primacy of interregional exchange; instead, one must show that as long-distance exchange increased, productive systems shifted toward increasingly specialized production of surpluses for export.

At the same time, one would have to demonstrate that the local society became more complex as a result of local elite control over access to the exchange system. As Algaze notes, a crucial, and as yet unanswered, question "is whether strong centralized states crystallized at exactly those locations through which long-distance exchange was being funnelled in earlier times, or whether long-distance contacts developed out of settlements that had evolved into strong centralized states for endogenous reasons not related to cross cultural interaction" (Algaze 1993b:119).

Thus, we have no a priori reason to accept the three core assumptions of Wallerstein's world-system model in analyses of the fourth-millennium Uruk

interaction network. These are hypotheses that need to be tested. The specificity and explicit formulations of Algaze's model allow for rigorous archaeological tests of the world-system construct against alternative formulations such as the distance-parity model. The two models can best be tested by studying the Uruk expansion not in the Mesopotamian heartland, but in the so-called periphery, the zone of primary contact in the upper Euphrates Valley.

Although Uruk colonies themselves have been excavated in Syria, Iran, and Anatolia, we still have only a few hints about the organization of the indigenous peoples with whom these colonies interacted. Given the clear variation in the organization of interaction, ideally one should examine local Late Chalcolithic sites in a variety of geopolitical situations along a gradient of increasing proximity and contact with Mesopotamia: (a) highland sites outside the reach of direct Mesopotamian control, (b) sites associated with Uruk outposts in the highlands, and (c) sites close to enclaves in the steppe or piedmont zone. Excavations at Arslantepe are providing essential information on the first of these site types. The excavations at Godin have furnished important information on the second category.

To complete the picture, it is necessary to examine a local site in contact with an Uruk enclave, because this has been postulated as a case where the Mesopotamian economic and political influence over local peoples will be strongest. Local sites of this type thus provide the best test of the world-system and distance-parity models. We need to focus on two aspects of political economy in a local Late Chalcolithic site that interacted with an Uruk enclave.

We should make a diachronic comparison of economic and social organization at the site before and after its incorporation into the interregional exchange network in order to test the assumption of trade as a prime mover. Also, we need to conduct a synchronic analysis of the organization of contact period interaction between Mesopotamians and indigenous peoples as a way to test the assumptions of core dominance and asymmetric exchange.

The fourth-millennium-B.C. site of Hacinebi Tepe in the Euphrates River valley of southeast Turkey provides an ideal test of the world-system and distance-parity interaction models for two main reasons. First, the settlement is located on the Euphrates River trade route connecting Mesopotamia and Anatolia, at the northern edge of the hypothesized Uruk colonial enclave at Carchemish. Second, Hacinebi is a local Anatolian site with two main occupations in the fourth millennium B.C.: a period prior to contact with Uruk Mesopotamia (phases A and B1) when just the local culture is present at the site, and a contact period (phase B2) when there is evidence for

interregional interaction with Mesopotamia, most notably the apparent presence of a small colony of Uruk Mesopotamians living as a distinct group inside this Anatolian community.

Comparison between Hacinebi phases A/B1 and B2 allows us to test the archaeological implications of the world-system and distance-parity models by monitoring the effects of contact with Mesopotamia on the local Anatolian culture. At the same time, a comparison of the Uruk and local Anatolian parts of the site during the contact phase B2 can clarify the structure of the Mesopotamian trade-diaspora and the degree to which its relations with the host community were characterized by pariah status, autonomy, or diaspora dominance.

7

Mesopotamian-Anatolian Interaction at Hacinebi, Turkey

The Regional Setting

Hacinebi is located in the Taurus piedmont zone, on a bluff overlooking the Euphrates River 3.5 km north of the modern town of Birecik. This area is characterized by low rolling hills with limestone-derived terra rossa soils on the uplands and pleistocene alluvial terraces in the Euphrates River valley. Rainfall ranges from 400 to 600 mm annually, almost all of it in the winter and early spring, permitting reliable cereal agriculture without need of irrigation. The natural Holocene vegetation of the area was oak-pistachio open parkland, grading off into steppe vegetation to the south. Modern and ancient crops in the Hacinebi area include wheat, barley, lentils, grapes, pistachio, and olive (Miller 1994b, 1996a).

The site is strategically located at the juncture of two of the most important trade and communication routes in the Near East (fig. 6.4). The first of these arteries is the Euphrates itself, the main north-south trade route linking the forests and copper source areas of the eastern Taurus Mountains with the steppes of Syria and the south Mesopotamian alluvium.

The area around Hacinebi, where the Euphrates emerges from a series of deeply incised gorges, forms the northernmost easily navigable stretch of the Euphrates River (Chesney 1850:45; al Idrisi 1840:vol. 2:137). For thousands of years, rafts and boats transported goods from this region south into Syria and Mesopotamia. Herodotus describes the north-south river trade along the Euphrates in leather boats, noting that the boats were dismantled in Babylon and brought back upstream by land-based donkey transport (Herodotus 1973:vol. 1:194–198). The downstream boat and raft trade was active as recently as the early twentieth century (Great Britain 1916:167).

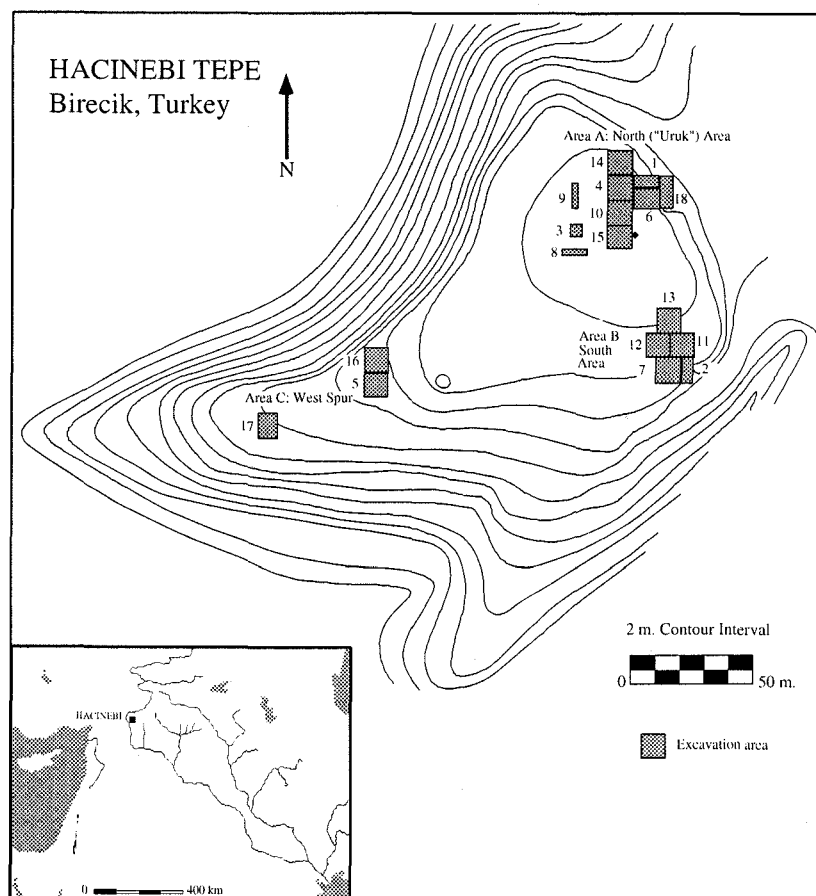


Figure 7.1. Excavation areas at Hacinebi Tepe.

Hacinebi also occupies a strategic location on a second key trade route through its location on what has historically been the major east-west crossing point of Euphrates. The Achaemenid Royal Road to Sardis crossed the Euphrates at this point (Oates 1968:7) in the fifth century B.C. In later periods, the key Hellenistic, Roman, and early Byzantine river-crossing town at Zeugma (Dilleman 1962:135; Wagner 1976) was located immediately to the north of Hacinebi. From the Medieval Crusader/Islamic period up to the present, the main Euphrates crossing point has been at Birecik, just 3.5 km to the south of the site.

The 3.3 ha, roughly triangular-shaped mound of Hacinebi is situated on

an easily defensible east-west spur that drops down steeply to the Euphrates River on the west and into deep canyons to the north and south. Cultural deposits are approximately 9 m deep at the east end of the mound, becoming gradually shallower toward the west, as the natural surface of the spur slopes down toward the bluffs overlooking the Euphrates.

In six seasons of fieldwork from 1992 to 1997, eighteen trenches were excavated, exposing a total area of approximately 1400 m² and reaching sterile soil in three main parts of the site (fig. 7.1): area A in the northeast, area B in the southeast, and area C along the west spur of the site. This work has defined two main fourth-millennium-B.C. occupations at Hacinebi, based on stratigraphy, architecture, and associated ceramics: precontact phases A and B1 with only local southeast Anatolian, Late Chalcolithic ceramics and an overlying contact phase B2 that had both local and south Mesopotamian Uruk types (fig. 7.2).

The Late Chalcolithic occupations have been radiocarbon dated to the fourth millennium B.C., i.e., both before and during the period of the Uruk Expansion. The only post-Chalcolithic deposits at Hacinebi are an early Bronze Age I cemetery (ca. 3100–2700 B.C.) at the east edge of the site, an Achaemenid/Hellenistic occupation (ca. 500–100 B.C.) over the entire area of the mound, and a small Roman period farmstead at the west end of the site. The limited amount of later occupation at Hacinebi provides a rare chance to make the broad horizontal exposures necessary to recover a representative sample from a fourth-millennium-B.C. settlement.

Precontact Phases A and B1

The occupation of Hacinebi prior to contact with Uruk Mesopotamia can be divided on the basis of local Late Chalcolithic ceramics, stratigraphy, and architecture into an early precontact phase A and a later precontact phase B1 (Stein and Mısırlı 1994; Stein et al. 1996b). The two phases are closely related and show a high degree of material culture continuity in this local developmental sequence. The presence of a precontact occupation at Hacinebi provides a baseline allowing us to assess local political and social organization in southeast Anatolia before the period of close interaction with Mesopotamia.

As noted earlier, the applicability of the world-system model to Mesopotamian-Anatolian interaction can best be tested by comparing this precontact baseline with the later contact period to determine whether local Anatolian social complexity and economy were transformed by the Uruk expansion. The available evidence from precontact phases A and B1 at Hacinebi

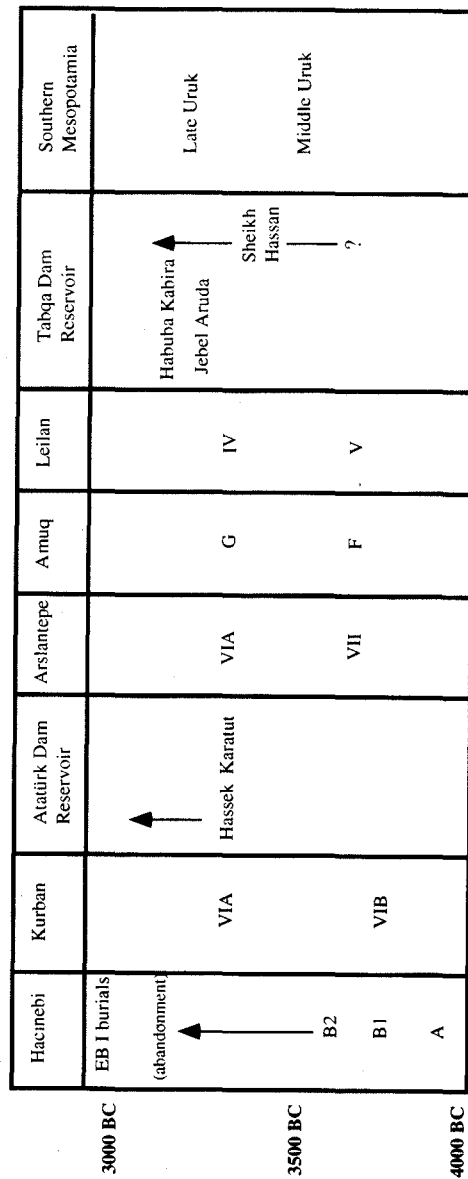


Figure 7.2. Site chronology at Hacnebi Tepe.

suggests that local Late Chalcolithic polities had already developed a surprising degree of social complexity, sophisticated technology, and prestige-goods exchange networks in Anatolia, centuries before the beginnings of Uruk Mesopotamian trade and colonization in this area.

The phase A occupation is founded directly on top of sterile gravel or bedrock in the northeast, southeast, and western areas of the mound. Calibrated radiocarbon dates suggest that the early precontact phase A falls roughly 4100–3800 B.C., whereas late precontact phase B1 dates to ca. 3800–3700 B.C. (Stein et al. 1996b:table 1). Typological parallels to the Hacnebi ceramics confirm that this occupation dates to the first half of the fourth millennium B.C. The assemblage is characterized by the predominance of chaff-tempered ceramics roughly contemporaneous with the Amuq F assemblage (Braidwood and Braidwood 1960).

The local Late Chalcolithic ceramic assemblage of Hacnebi is widely distributed along the interface zone between the eastern Taurus Mountains and the Syrian steppe (fig. 6.4), from the Euphrates valley in the west (Özdoğan 1977) to the Habur headwaters region in the east at sites such as Kurban Höyük (Algaze et al. 1991), Karatut Mevkii (Schwartz 1988b), Kazane (Wattenmaker 1997:83), Brak (Oates and Oates 1993), and Leilan (Schwartz 1988a).

More than 650 m² of the precontact settlement were exposed in the north, south, and west areas of the Hacnebi mound. Precontact deposits ranged from 2.5 to 3.7 m deep and comprised several distinct, superimposed building levels. These exposures provide somewhat fragmentary but significant information about four main aspects of local Anatolian political economy in the early and late precontact phases: social complexity, subsistence production, craft organization, and exchange. These data establish a baseline to determine the extent to which the later contact with Uruk Mesopotamia affected indigenous sociopolitical organization.

The Evidence for Social Complexity in the Precontact Phases

Social complexity is difficult to identify in the archaeological record for two main reasons. First, in studying prehistoric or nonliterate societies, the relationship between systems of meaning such as political ideologies and their material culture correlates is problematic and subject to serious interpretive difficulties. In addition, theoretical critiques of evolutionary typologies have emphasized that the application of terms such as “chiefdom” as a unitary type of society can mislead researchers into lumping together fundamentally

different societies within a single conceptual framework that masks rather than clarifies variation (Kristiansen 1991; Yoffee 1993).

Although one must always beware of the perils of uncritical trait listing, there is a general consensus among archaeologists that a number of locational, mortuary, architectural, and artifactual patterns occurring together provide reasonably secure evidence for the emergence of hierarchically organized complex societies that, for the sake of convenience and cross-cultural comparison, we can call chiefdoms (Creamer and Haas 1985; Earle 1991; Flannery 1972, 1995; Johnson 1987; Peebles and Kus 1977; Snarskis 1987; Spencer 1987; Stein 1994a; Steponaitis 1981; Wright 1984; Wright et al. 1980).

These include multilevel site-size hierarchies, differentiation in grave goods, high-status children's burials, architectural differentiation both within settlements and between centers and surrounding rural communities, long-term economic differentiation, concentrations of exotic and/or precious raw materials in regional centers, high volumes of long-distance trade in rare/exotic trade goods, attached craft specialization, monumental public architecture, evidence for the centralized appropriation and storage of surpluses, and complex administrative or decision-making hierarchies. On this basis, locational, architectural, mortuary, administrative, and artifactual evidence all argue for a relatively high degree of sociocultural complexity at Hacinebi in the early-fourth-millennium phases A and B1, before the beginnings of contact with Uruk Mesopotamia.

In this period, two-tiered settlement hierarchies of small regional centers and dependent villages can be seen in a broad band across the piedmont-steppe interface in southeast Anatolia, north Syria, and northern Iraq (Lupton 1996; Whallon 1979; Wilkinson and Tucker 1995).

In the Euphrates River valley, the precontact phase settlement at Hacinebi starts to show clear signs of architectural differentiation and the construction of monumental stone architecture in all three main excavation areas. At the west end of the site (area C), a series of at least four narrow stone storerooms 7 m long were constructed. These are clearly distinguishable from the more typical mud-brick domestic architecture of this phase. These storerooms are associated with evidence for metallurgy and with administrative activities (fig. 7.3).

At the south end of the site (area B), the earliest building level consists of simple mud-brick houses. However, on top of these was constructed a monumental stone enclosure wall with 2 m wide niches and buttresses along its east face. This 3 m wide wall is preserved to a height of over 3.3 m and extends at least 20 m in the excavated exposures. Inside the enclosed area, a

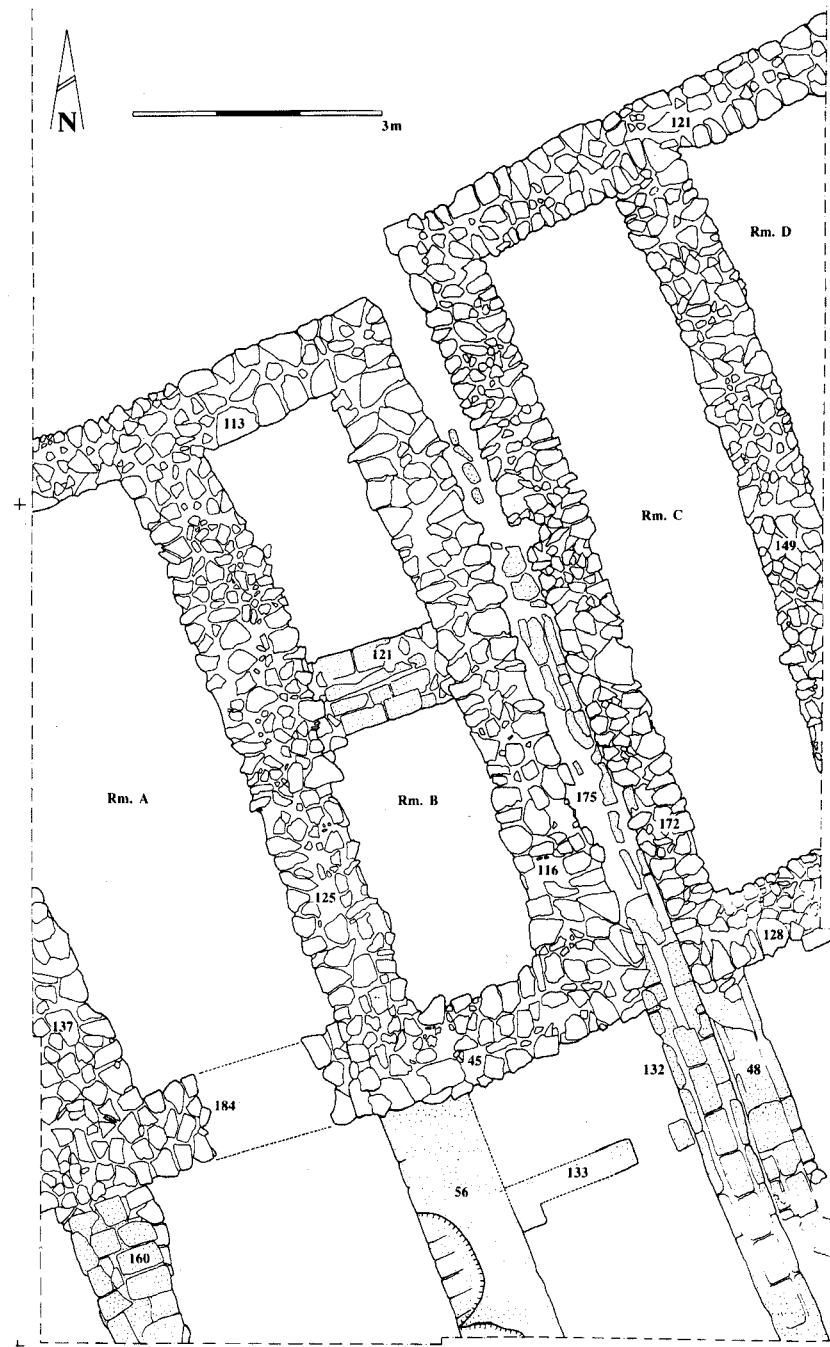


Figure 7.3. Precontact stone storerooms at Hacinebi Tepe (area C).

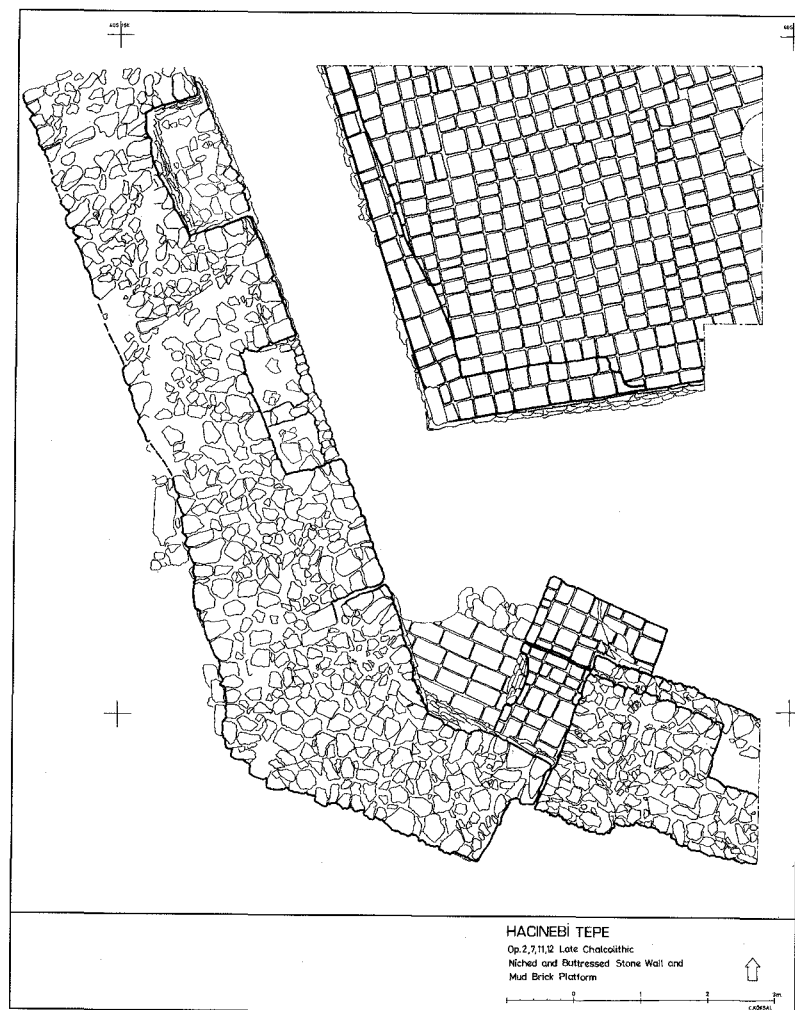


Figure 7.4. Precontact, monumental, niched and buttressed, stone enclosure wall and associated mud-brick/stone platform at Hacinebi Tepe (area B).

stone and mud-brick platform 3 m high, at least 7 x 5 m in area, was constructed. The enclosure may represent the southwest corner of a large wall surrounding the entire eastern third of the site. (fig. 7.4).

During the late precontact period, the north end of the site (area A) was transformed into a special purpose area consisting of a monumental stone

platform 2.8 m high, measuring at least 8 x 7 m in trench exposures. A large open area was created to the east and northeast of the platform through the construction of two massive stone terraces. The platform may have been either a ritual structure or possibly an elite residence. Its function remains uncertain, however, because it was remodeled and rebuilt, so that nothing remains from its original mud-brick superstructure (fig. 7.5).

Mortuary practices provide additional evidence for emergent social complexity in the precontact phase at Hacinebi. The inhabitants of the phase A and B1 settlements continued the local southeast Anatolian tradition of jar burials of infants and small children. The burials are generally articulated, with no grave goods. Skeletal analysis of a sample of four burials indicated that the individuals ranged in age from neonates to four-year-old children (Grauer 1994:173–176). The deceased were placed in large chaff-tempered storage jars (or occasionally large recycled cooking vessels), with overturned platters or bowls as lids. The jars had been placed in trash, wash, and leveling fill deposits, indicating that these were extramural burials.

An unusual phase A infant-child burial sealed beneath a room floor at the west end of the site provides important evidence for emerging social stratification and elite formation in the early precontact phase. Inside the burial jar



Figure 7.5. Precontact stone platform and terrace complex at Hacinebi Tepe (area A).

along with the skeleton were placed a miniature ceramic vessel, one copper ring, and two silver earrings as grave goods (Stein et al. 1996b:96). This is significant for several reasons.

First, the infant-jar burials very rarely contain grave offerings of any sort. Second, the earrings are the earliest known silver artifacts known from the site and would certainly be among the earliest silver pieces known from Anatolia (apparently predating the silver finds at Korucutepe by 300 to 500 years; Brandt 1978; van Loon 1978:7–9). The combination of silver's scarcity in general and its presence in an atypical mortuary context imply that this was a highly valued prestige good. The deposition of the three metal rings in an infant burial provides strongly suggestive evidence for ascribed status, specifically the emergence of inherited elite identity in the early precontact phase at Hacinebi.

Record-keeping artifacts, such as stamp seals and seal impressions, provide a third line of evidence for hierarchical administrative and social systems in the precontact phases at Hacinebi. Stamp seals with a broadly similar repertoire of animal motifs are well known from fourth-millennium local Late Chalcolithic sites in the eastern Anatolian highlands (at sites such as Arslantepe and Değirmentepe; Esin 1990; Ferioli and Fiandra 1983; Frangipane 1993, 1994), in the steppes of the northern Iraqi Jazira at Gawra (Rothman 1994a,b; Tobler 1950), and at Hacinebi in the Taurus piedmont zone.

Each stamp seal was carved with a unique design to identify its individual or institutional owner. Stamp seals in the north and cylinder seals in southern Mesopotamia served as extremely important administrative technologies that allowed individuals or centralized institutions to monitor the ownership, movement, receipt, storage, and disbursement of goods as trade items, rations, taxes, or tribute with remarkable accuracy even in the absence of a developed writing system. As such, the presence and spatial distribution of seals and seal impressions can serve as evidence for the operation of decision-making hierarchies and centralized control over economic activities (Dittman 1986; Ferioli and Fiandra 1983; Frangipane 1994; Frangipane and Palmieri 1989; Johnson 1973, 1987; Nissen 1986; Pittman 1994; Rothman and Blackman 1990; Wright and Johnson 1975; Wright et al. 1980, 1989; Zettler 1987).

A number of stamp seals and seal impressions have been recovered from the precontact settlement at Hacinebi (fig. 7.6). This is not in itself conclusive evidence for complex bureaucratic systems, because stamp seals occur at Near Eastern sites as markers of personal ownership from Neolithic times onward (e.g., Akkermans and Duistermaat 1997). Yet variation in seal

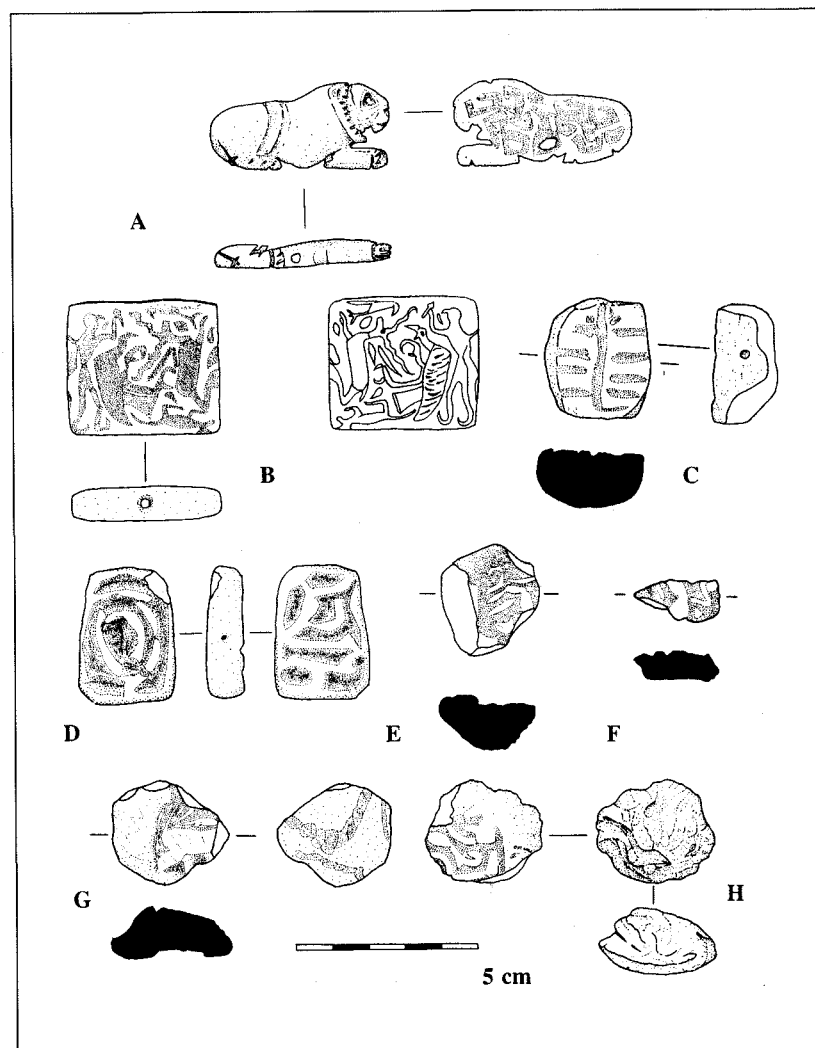


Figure 7.6. Precontact stamp seals and sealings from Hacinebi Tepe.

design and the spatial distribution of the seals and sealings provide important evidence for administrative hierarchy.

Nissen (1977) has argued that in late-fourth-millennium Mesopotamia, one can distinguish high status individuals from lower level temple functionaries based on the complexity and manufacturing technique of seal designs.

The precontact seals from Hacinebi fall into two categories: baked clay or limestone seals with crudely incised geometrical designs (Pittman 1996a), and one example of a rectangular seal carved from red siltstone bearing an elaborate design depicting deer, vultures, and a mace-carrying anthropomorphic figure, possibly a god or demon (fig. 7.6B) (Pittman 1998). The simple, crudely carved seals were found in domestic contexts, while the elaborate seal was recovered from a pit inside a niched, white plastered mud-brick building in area A at the north end of the site.

Thus the spatially patterned variation in seal quality and motifs is consistent with the other evidence suggesting a distinction between higher and lower status individuals at Hacinebi. The unbaked clay seal impressions support this interpretation. Although our evidence is still limited, the variation in the design motifs on seal impressions from the north part of the site suggests that the individuals or institutions in this area were receiving goods from a variety of sources—a pattern consistent with the payment of tribute or taxes to a central authority of some sort. Taken together, the seals and seal impressions from the precontact settlement argue for the existence of a hierarchically ordered economic system of individuals and possibly larger scale institutions.

Several independent lines of evidence indicate that the precontact settlement at Hacinebi was an active participant in long-distance exchange networks aimed at procuring exotic raw materials from the Mediterranean in the west, the Tigris-Euphrates headwaters to the north, and the Taurus piedmont to the east. Small amounts of exotic raw materials and finished items (possibly prestige goods) have been recovered from the precontact settlement (fig. 7.7). On the floor of an early precontact phase A room in the south end of the site, a small carved, gray stone pendant was found, apparently made of chlorite. Also found was a chlorite bowl fragment in the west area of the site.

Given that the nearest known chlorite sources are in the Diyarbakır region, almost 300 km to the east (Philip Kohl, personal communication), the Hacinebi pendant and bowl provide evidence for regional exchange of either the exotic raw materials or the finished prestige goods in the early fourth millennium B.C. (Stein et al. 1996a:212).

A second exotic raw material present in the precontact settlement is cowrie shell, present in the form of three deliberately abraded beads or possibly sewn-on ornaments. Cowrie shells occur naturally in both the Mediterranean and Red Seas. But because the Mediterranean lies only 170 km to the west of Hacinebi, whereas the Red Sea is located approximately 900 km to the south, the former is the most likely source for the ornaments found in the precontact settlement.

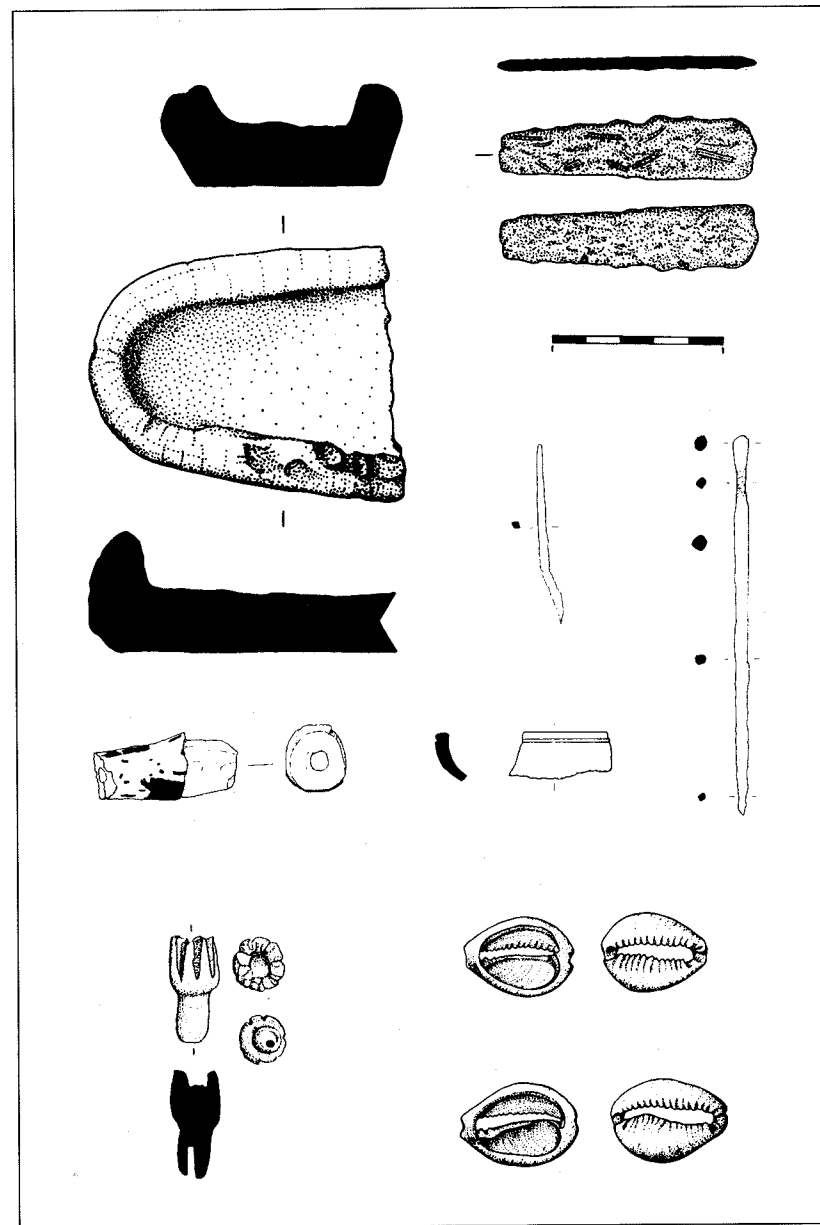


Figure 7.7. Precontact copper-production debris and probable prestige goods made from imported raw materials (cowrie, chlorite, and copper) from Hacinebi Tepe.

Finally, metals—notably copper and silver—were the most important exotic raw materials obtained through long-distance exchange by the precontact phase inhabitants of Hacinebi. Neither metal occurs naturally anywhere near the site. We have already noted above the presence of two silver earrings in a phase A infant-jar burial at the site. The most likely source for the Hacinebi silver is the Amanus Mountain Range, to the west of Hacinebi on the route to the Mediterranean. The Amanus was the source of some of the earliest silver in Syria and Palestine in the fourth millennium B.C. (Prag 1978), and was well known to the Mesopotamians as the “Silver Mountain” in the third millennium.

Copper and copper-processing artifacts are far more common than silver, occurring in precontact deposits in all three main excavation areas at the site. Present are not only finished products such as small chisels, earrings, and pins, but also open-faced casting molds, crucibles, slags, a tuyere (or blowpipe for copper smelting), and four actual smelting pit furnaces, indicating that copper was brought to the site in raw form and worked locally (Özbal et al. 1998).

Analyses of the precontact copper objects suggest that they were smelted from ores whose composition most closely matches the Ergani maden source (Özbal 1996, 1997), about 200 km to the north of Hacinebi. Ergani has been one of the richest and most important copper sources from Neolithic times up to the twentieth century. Ores were presumably transported down the Euphrates by raft to Hacinebi for processing.

The available evidence does not permit us to determine whether the exchange system was monopolized by local elites or if it functioned in a more open, entrepreneurial fashion. However, the scarcity and exotic origins of the raw materials, combined with their use as ornaments is consistent with their hypothesized social role as prestige goods materializing an elite ideology (DeMarrais et al. 1996; Earle 1982).

The long-distance exchange of copper, silver, marine shell, and chlorite, presumably as raw materials for prestige goods, supports the locational, architectural, administrative, and mortuary evidence for the emergence of a small-scale hierarchical social system with hereditary elites in southeast Anatolia during the precontact phases at Hacinebi.

Precontact Economic Organization:

Farming, Herding, and Craft Production

The available data on precontact agropastoral economy and craft organization at Hacinebi suggest the existence of small-scale specialized production

geared toward local exchange and consumption rather than the large scale manufacture of surpluses for long-distance trade.

Limited information about agricultural production at Hacinebi derives from a small number of analyzed archaeobotanical samples from securely dated precontact deposits (Miller 1996a; Stein et al. 1996b). As one would expect for this region, the farming economy centered on rain-fed cultivation of domesticated cereals. The most common of these was six-row barley (*Hordeum vulgare*), which made up about 80% of the identified cereal seeds from the site. Barley is a hardy, drought-resistant crop, well suited to semi-arid areas. It remains unclear to what extent the predominance of barley represents human dietary preferences as opposed to the diet of herded animals (incorporated into the archaeological record of Hacinebi through the burning of dung as fuel; see Miller and Smart 1984). The predominance of barley matches the archaeobotanical assemblage from the contemporaneous Late Chalcolithic site of Kurban Höyük (Miller 1996a:256). Several varieties of wheat (einkorn, emmer, and bread or durum) formed a secondary component in the analyzed assemblage. Pulses, such as lentils (*Lens*) and grasspea (*Lathyrus*) were also fairly common either as food for humans or as fodder. Small amounts of grape (*Vitis*) have also been found in precontact deposits, although we cannot say whether this was a domesticated or wild form. The low frequencies of grape remains suggest that wine production was not a significant component of the precontact agricultural economy.

The archaeobotanical data are consistent with a subsistence-oriented farming system based on the extensive cultivation of rain-fed cereals. We see no evidence for either intensification of agricultural production through irrigation or changes in crops from the precontact to the contact phases. Instead, there appears to be great stability in local agriculture.

Preliminary analyses of the faunal data suggest that the precontact herding economy was a diversified system in which animals were herded using generalized pastoral strategies geared toward small-scale production of wool, hides, milk, or meat for local consumption, rather than the specialized production of high volumes of surpluses for export. Wild animals such as red deer (*Cervus*), fallow deer (*Dama mesopotamica*), gazelle, and bear together constitute about 2 to 4% of the fragments.

As is commonly the case for fourth- and third-millennium assemblages from the dry farming zone of northern Syria and southeastern Anatolia, almost 98% of the phase A sample consists of caprines (sheep and goats), pigs, and cattle—the main domesticated food animals of the ancient Near East (table 7.1). The diversified use of caprines, pigs, and cattle is attested at

Table 7.1. Main taxa identified to genus from Hacinebi Tepe precontact phases.

| Taxon | Phase A | | Phase B1 | |
|-------------------|---------|-------|----------|--------|
| | No. | % | No. | % |
| <i>Ovis/Capra</i> | 176 | 43.89 | 559 | 50.68 |
| <i>Bos</i> | 106 | 26.43 | 178 | 16.14 |
| <i>Sus</i> | 110 | 27.43 | 319 | 28.92 |
| Other | 9 | 2.24 | 47 | 4.26 |
| Total | 401 | 99.99 | 1103 | 100.00 |

Note: Data are expressed as fragment counts for identified specimens.

not only Hacinebi, but also the precontact levels of Arslantepe (Palmieri and Frangipane 1986:40; Bökönyi 1988:592–593).

Sheep and goats are the most common taxa, together comprising 44–53% of the identified precontact fauna, with sheep only slightly more common than goats. The importance of sheep and goats increases from 44% in phase A to 53% in phase B1. However, both the age profiles of the assemblage and the high proportions of goats relative to sheep suggest that there were no major shifts in the degree of specialization or surplus production of caprine products. In particular, there is no evidence for a shift to intensive wool production.

Pigs form the second most common component of the precontact assemblage (27.43–30.21%) with cattle a close third (26.43–16.86%). The fact that cattle and pigs form such a large proportion of the phase A faunal assemblage suggests a relatively diversified herding economy. Even in the later precontact phase B1, pigs, cattle, and wild species form almost one half of the analyzed specimens by number and would have provided the majority of the edible meat. Diversification of this sort is consistent with the risk-averse strategies of village-based herders focused on subsistence level production for local use (Stein 1987, 1989).

We can reconstruct the degree of economic specialization and surplus production in the precontact herding economy at Hacinebi by using excavated animal bone remains. Specialized herding strategies would be those that tried to maximize production of a specific product such as dairy products, or wool, or supplying animals to the urban centers for meat. By contrast, a generalized herding strategy would be oriented toward local subsistence

and insuring that the herd is able to recover from possible environmental disasters like disease, harmful weather conditions, or wild predators.

Each of these economic strategies has a different kind of optimal sheep and goat herd composition and would generate a distinctive age-sex profile of animal bone remains in the archaeological record (Payne 1973; Redding 1981; Stein 1987). Dairy production strategies favor females and cull almost all the males at a very young age because they produce no milk, and compete for fodder with the more valuable ewes; the resulting faunal assemblage would have large numbers of juvenile males and adult females. In wool production, the males would not be culled as juveniles because they produce as much wool as the females. This specialized strategy would generate a pattern of bone remains where most of the animals would be adults, evenly divided between males and females.

If the villagers' specialized production goal focused on providing animals on the hoof to a larger urban center, they would send the prime aged animals to the city, while retaining the breeding stock for themselves (Mudar 1982; Zeder 1988, 1991). This would generate a pattern where only the bones of very young and very old animals would be present in the village producing areas, whereas the urban consuming areas would have faunal patterns composed mainly of prime aged animals in the two- to three-year-old age range.

In contrast to these specialized herding strategies, a generalized subsistence-oriented strategy would be a compromise between dairy and wool production, and would only produce meat for local consumption. This risk-averse strategy would generate a pattern of faunal remains in which all age groups were present, with males culled as they reached their optimum meat weight, while females would be culled as old adults, once their reproductive and dairy producing capacities begin to decline (Stein 1987).

The animals' ages at death can be calculated by examining patterns of tooth eruption and wear (Payne 1973). The limited available data from the late precontact phase B1 indicate that most caprines were killed once they had reached full adult weight, implying that the precontact phase Anatolians were focused mainly on meat production for local consumption. In this herding strategy, dairy and wool would have been produced as well, but this would have been in small quantities for household consumption. This is a generalized, subsistence-oriented herding strategy that does not suggest a high degree of specialized surplus production for exchange. (Bigelow 1997, 1998).

Craft production forms a second main class of economic activities in the precontact settlement. Production debris and finished goods provide

evidence for four main crafts: ceramic manufacture, stone-tool production, weaving, and copper metallurgy. The available evidence suggests a mix of household production and noncentralized manufacture, most likely by independent specialists engaged in cottage industry rather than attached specialists dependent on local elites. The small volumes of production debris for all four craft activities and their intrasite distributional patterns are entirely consistent with small-scale specialized production, largely for local use, rather than mass production.

Two main ceramic ware classes were made at Hacnebi during the precontact phases: chaff-tempered, medium-to-coarse wares and grit-tempered fine wares (fig. 7.8). The precontact medium-to-coarse wares are almost always hand-built, chaff-tempered, and fired at relatively low temperatures in an oxidizing atmosphere, yielding a paste that generally has a dark core and a pale brown-to-pink surface, often with burnishing (Pollock and Coursey 1995; Stein and Misir 1994).

The characteristic forms of the medium-to-coarse wares are storage vessels, large carinated cooking pots called “casseroles,” and large plain or hammerhead-rim bowls that double as lids for the cooking pots or storage jars. These three vessel types are highly variable in measurements and proportions, as one would expect with hand-built ceramics made by households for their own use rather than exchange (Balfet 1965; Blackman et al. 1993; Longacre et al. 1988; Rice 1991).

The second main class of local Late Chalcolithic ceramics consists of wheel-made, mineral-tempered fine ware, small carinated serving bowls, and small jars showing a relatively high degree of standardization, generally well fired with smoothed, pale brown surfaces. Grit-tempered wares form 12–15% of precontact ceramic assemblages (Boden 1996). The combination of small vessel size, metric standardization, and manufacturing traces are all consistent with fast-wheel manufacturing by craft specialists (Boden 1997), although the scale of fine ware production appears to have been limited (based on their low proportions within the overall assemblage). Thus ceramic production was divided between production of coarse wares by households for their own use and small-scale production of fine wares by specialists for local exchange and consumption.

Chipped-stone tool production in the precontact period seems to have the same dual organization of household and small-scale specialist production. The Hacnebi lithic assemblage falls into three main classes: flakes, Canaanite blades, and simple blades (C. Edens 1996, 1997; Wright and Bernbeck 1996). Flakes form about 87.5% of the 24,000 pieces in the Late Chalcolithic assemblage (Edens 1998). The flakes are irregular, highly vari-

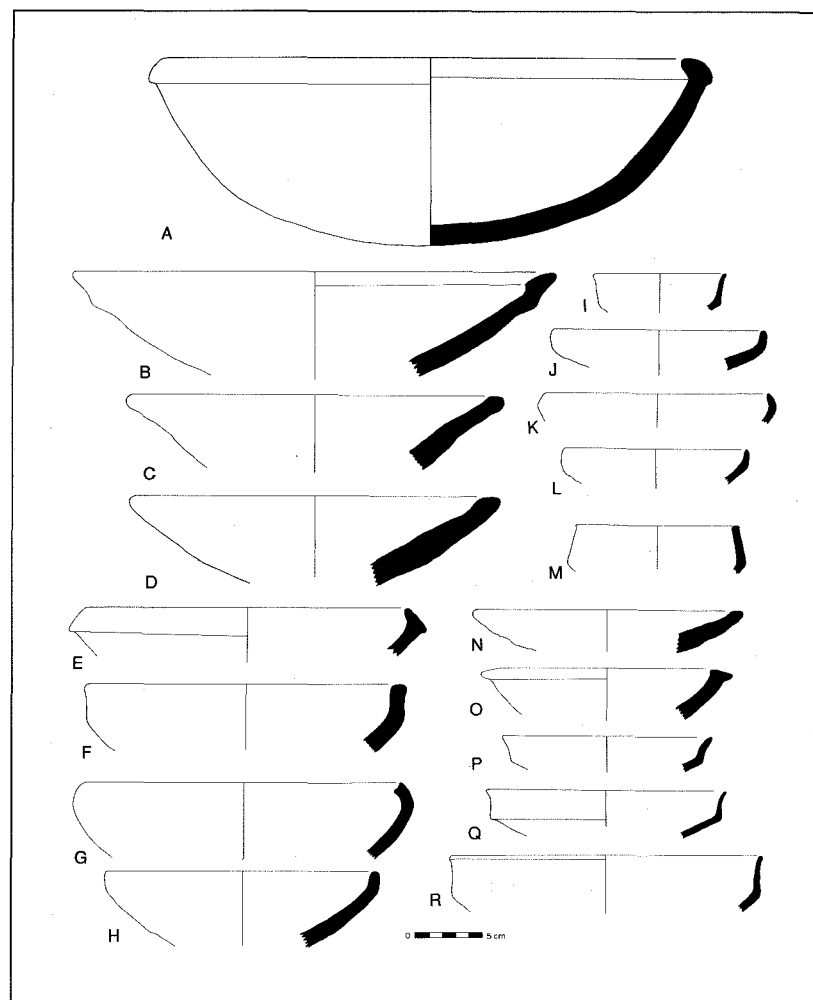


Figure 7.8. Precontact local ceramics from Hacnebi Tepe.

able, and distributed in large numbers throughout the site. The ad hoc character and ubiquity of the production debris and finished products suggest that the flake tools were produced as needed by nonspecialist households for their own use.

Blades form the vast majority of the remaining three thousand pieces, which fall into two technologically distinct categories: Canaanite and simple blades. The majority (by a ratio of about 4:1) are Canaanite blades,

characterized by a carefully prepared, faceted-striking platform with an angle of 95° to 105°, trapezoidal cross sections, and large dimensions (blade widths of 2.8 to 3.0 cm). Canaanian blades are widely distributed in the Levant and Greater Mesopotamia in the fourth and third millennia B.C. (Hanbury Tenison 1983; Rosen 1997:46–60). The second, less common form was the simple blade, characterized by a plain, unprepared striking platform with an acute angle of 80° to 90°, and smaller dimensions (a modal blade width of about 1.5 cm).

The two blade types were made from different raw materials and appear to have been intended for different functions. Canaanian blades occur in roughly the same proportions (8–9%) in those parts of the site with domestic architecture and midden deposits (Edens 1998:table 3); the manufacturing debris associated with their production is much more localized. The small number of concentrated deposits with chipping debris from the production of Canaanian blades in areas B and C, the skill required for the production of these tools, and the relatively high degree of metric standardization in the finished products all suggest that Canaanian blades (and probably the simple blades as well) were manufactured by specialists.

But neither the amounts of blade-manufacturing debris nor the ratios of blades to debitage provide any evidence for mass production or export of these two blade types. The available evidence suggests, then, that flake tools were produced by households, whereas blades were produced by specialists in relatively small amounts for purely local exchange and consumption within the community.

Our inferences about the organization of precontact textile production at Hacinebi derive from two sources: faunal remains and spindle whorls. We have noted above that the survivorship curves of sheep and goats show no evidence for the kinds of herd structure to be expected if the pastoral economy were focused on wool production; instead, caprine age and sex ratios argue for generalized subsistence-oriented herding strategies that produced a balanced mix of meat, wool, and dairy products for local consumption. The spatial distributions of spindle whorls suggest that they were common in all residential parts of the settlement. There is no evidence for concentrations of spindle whorls in association with elite or monumental architecture at the site. The sizes and weights of the whorls indicate that there was no special emphasis on the production of the kinds of finer thread needed to produce high quality textiles as prestige goods (Keith 1997). The limited data are consistent with what we would expect to see in a pattern of household production where each family produced textiles for its own use.

Metal production at Hacinebi appears to have been specialized but not

centralized. The evidence for precontact copper and silver metallurgy has been briefly discussed above. We have evidence for the importation of several different kinds of copper ores to the site from the Ergani source, approximately 200 km to the northeast. The presence of four smelting-pit furnaces containing charcoal, crucible fragments, slag, and copper in the south part of the Hacinebi mound provides our strongest evidence for precontact craft specialization in metallurgy (Stein et al. 1998). The presence of production tools and debris in the north and west parts of the site, however, suggests that specialist producers were present in all parts of the settlement.

At the same time, the scarcity of copper as a long-distance trade item, the limited amounts of production debris (e.g., used molds, crucibles, and slag), and its intrasite distribution suggest that copper production was a relatively small-scale activity conducted by independent specialists dispersed in several locations around the site, rather than being the province of attached craft specialists dependent on the elites. This inferred organization of multiple, independent specialists matches White's (1995:107) model for the non-centralized way metallurgy seems to have been conducted in the small-scale early Bronze Age complex societies of Thailand from 2000 to 300 B.C.

We have no evidence for the organization of silver production in the precontact settlement at Hacinebi. If silver was worked at Hacinebi rather than being imported in finished form, this exotic and precious material might well have been more closely controlled by local elites; we simply cannot say on the basis of the available evidence.

The Hacinebi Precontact Occupation: Overview

The social and political organizations of the precontact settlement at Hacinebi can be inferred indirectly from architectural, mortuary, administrative, and economic evidence. The site appears to have been the regional center for a small but complex polity, perhaps something we could call a chiefdom, with hereditary elites, a complex administrative technology, advanced metallurgy, socioeconomic differentiation, generalized rain-fed subsistence agriculture, long-distance exchange of exotic raw materials and/or prestige goods, and a craft economy that combined household production with small-scale specialization by independent producers of ceramics, chipped stone blades, and copper ornaments.

The economy seems to have been largely geared toward local consumption, although some surplus production must have been taking place to support the emergent importation of exotic raw materials for use as prestige goods by elites. The administrative technology of seals and sealings also

suggests that the elites were mobilizing surplus subsistence or craft goods, although the scale of these activities remains to be determined.

The inferred sociopolitical organization of Hacinebi in the precontact period matches the evidence from the centers of other small-scale northern polities, such as Arslantepe in the Anatolian highlands (Frangipane 1993), Brak in the north Syrian plain (Oates and Oates 1997), and Gawra in the Iraqi north Jazira (Rothman 1988, 1993, 1994a; Rothman and Blackman 1990). The similarities between these polities in their administrative technology of stamp seals and the broad similarity of the wild animal motifs on the seals also suggest some kind of shared elite ideology across the Syro-Anatolian borderlands (for a good example of shared regional elite ideologies in chiefdoms, see Helms 1979).

These ideological links between different local elites were probably closely connected to the economic connections among the polities in this interaction network. The exotic raw materials at Hacinebi suggest that the major trade connections were to the west, north and east, linking the site with the other piedmont-steppe chiefdoms, rather than southward toward the increasingly complex chiefdoms of Ubaid Mesopotamia at the end of the fourth millennium. This was the world with which the newly emergent Uruk states established economic and colonial contact in 3700 B.C.

Phase B2: The Contact Phase

Phase B2 (ca. 3700–3300 B.C.) at Hacinebi shows complete continuity in the local material culture from the earlier phases A and B1. But we now have the relatively sudden appearance of an Uruk Mesopotamian material culture component as a second, foreign assemblage concentrated in the northeast corner of the site. This material is both contemporaneous with and often separate from the continuing local Anatolian material culture tradition that predominates in all other excavated parts of the site.

With about 1300 m² exposed in areas A, B, and C, the contact phase is the best documented Late Chalcolithic occupation period at Hacinebi. Both radiocarbon dates and stylistic evidence indicate that this period of culture contact and interaction began at Hacinebi during the middle Uruk period in terms of the Mesopotamian chronology. The Uruk material encompasses a full range of artifact categories, functions, and behavioral patterns that together provide strong evidence for the presence of a small Mesopotamian colony, existing as an autonomous trade diaspora in this local Anatolian site.

The Archaeological Evidence for an Uruk Colony at Hacinebi

We have noted above the criteria for the identification of colonies, as opposed to exchange or emulation, in the archaeological record. When evaluated by these standards, the Hacinebi data provide clear evidence for the establishment and long-term operation of a small Mesopotamian colonial enclave inside the local Anatolian regional center at Hacinebi. Both Uruk and Anatolian artifacts are present in phase B2 contexts in contrasting distributions. The foreign artifacts at Hacinebi are not just limited to ceramics, but rather represent the full range of Uruk material culture used in both public and domestic contexts in Mesopotamia.

These different forms of Uruk material culture are found together and are spatially distinct from contemporaneous local Anatolian deposits. The south and west areas of the phase B2 settlement have predominantly local Late Chalcolithic material culture (fig. 7.9). In stark contrast, Uruk material is highly localized within the north area. In this area, stratigraphically contemporaneous deposits showed clear spatial differences between the distributions of local and Mesopotamian ceramics.

The full range of Uruk ceramic forms and decorative techniques is present at Hacinebi (fig. 7.10; see also Pollock and Coursey 1996). Ceramic vessel-form classes span the full range of functions, including food preparation, serving, and storage. Ware types and manufacturing techniques match southern Mesopotamian practices. Finds of Uruk-style kiln wasters and the preliminary results of neutron activation analysis all indicate that the Uruk-style ceramics were manufactured on-site; the production of Uruk ceramics was contemporaneous with, but stylistically and technologically distinct from, the manufacture of the local Anatolian ceramic forms.

Other forms of Mesopotamian material culture occur as well. Uruk architecture is attested, albeit indirectly, at Hacinebi through the presence of ceramic wall cones, the uniquely Mesopotamian form of building decoration, in secondary (trash) deposits at the site (Stein et al. 1996a:215–216; fig. 7.11). Excavations in Mesopotamia proper, and at colonies such as Habuba Kabira, Jebel Aruda, and Hassek Hüyük, have shown that this architectural decoration was used on both public and domestic buildings in the Uruk period (Behm-Blancke 1989).

An additional form of distinctively Mesopotamian material culture at Hacinebi is bitumen. Bitumen is a malleable, petroleum-based material that occurs as a tarlike substance in natural seeps. When temper is added (e.g., chaff or sand), bitumen can be used for a variety of purposes. Bitumen

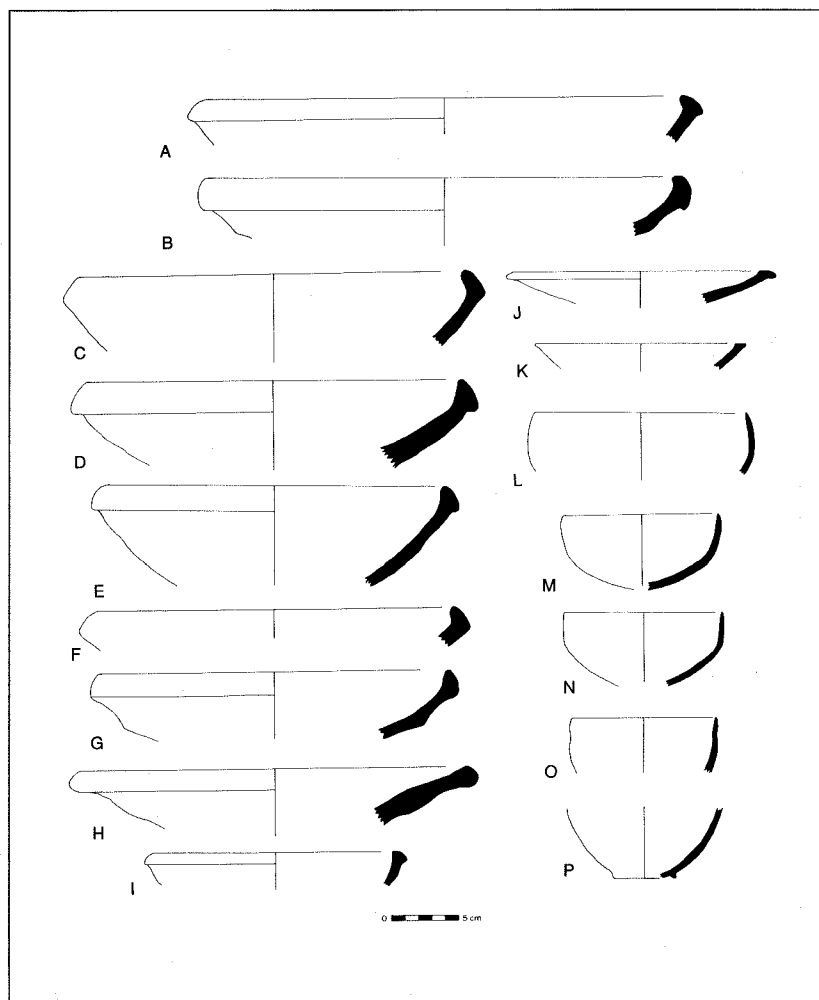


Figure 7.9. Contact phase B2, local Late Chalcolithic ceramics from Hacinebi Tepe. Note continuity with precontact phase.

sources are common in southern Mesopotamia and southwestern Iran (Connan and Deschesne 1991, 1996), where, in the Uruk period, this material was ubiquitous as a construction material, sealant, and raw material for a variety of functional or decorative objects. Bitumen has also been identified at Uruk colonies in Syria (Peltenburg et al. 1996).

Although the local Anatolian population also imported and used small

amounts of bitumen in the precontact period, this material was obtained from non-Mesopotamian sources, possibly Samsat, on the Euphrates 100 km upstream from Hacinebi. This source was well known at least as early as classical times (Forbes 1955:3; Pliny 1931:35, 179; M. Schwartz 1998) and was still mined by villagers in the area as recently as the 1970s (Necmi Yaşar, personal communication).

The volume of bitumen at Hacinebi, however, increased significantly in the contact phase, where it has been found concentrated in phase B2 deposits associated with Uruk ceramics (Stein et al. 1996a). The bitumen in Uruk contexts at Hacinebi matches the chemical composition of the

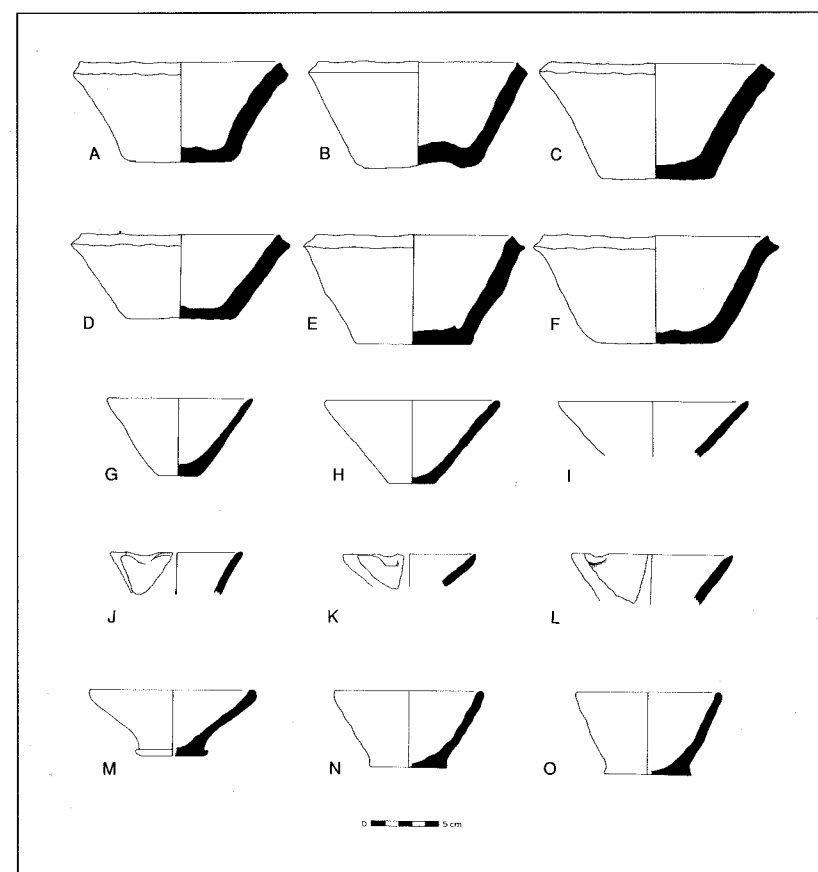


Figure 7.10. Contact phase B2, Uruk Mesopotamian ceramics from Hacinebi Tepe.

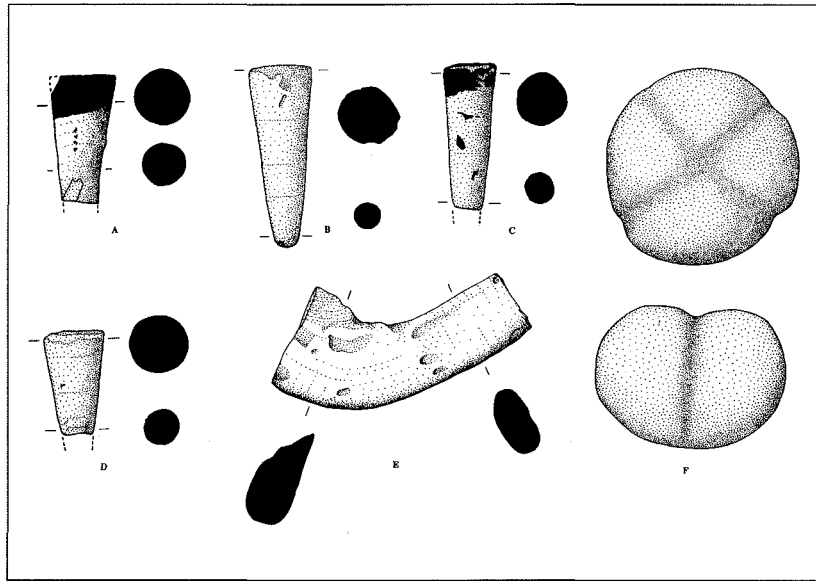


Figure 7.11. Contact phase B2, Uruk Mesopotamian material culture (wall cones, stone weight, and clay sickles) from Hacinebi Tepe.

bitumen sources at Hit in southern Mesopotamia and in the Deh Luran plain (M. Schwartz 1998; Stein and Misir 1994), suggesting that this material was either a trade good exported from Mesopotamia (or southwest Iran) to southeast Anatolia, or else the packaging within which some other trade good was transported.

Other distinctively Mesopotamian forms of material culture found at Hacinebi include personal ornaments, artifacts associated with commercial activities, and subsistence-related technology. A conical-headed copper pin found in Uruk deposits at Hacinebi has an exact parallel in the Uruk colony at Tell Sheikh Hassan (Boese 1995:224, fig. 10D). Cruciform-grooved stone weights, known from the Uruk colony at Habuba Kabira (Rouault and Masetti-Rouault 1993:plate 148) and from Tell Sheikh Hassan (Boese 1995:175, fig. 13B), are also present at Hacinebi. Finally, two examples of high-fired clay sickles have been found at Hacinebi. These tools are characteristic of Uruk sites in chert-poor southern Mesopotamia (Benco 1992), but are virtually unknown in local Late Chalcolithic settlements of southeast Anatolia, where chert is abundant.

Most importantly, the north area of Hacinebi has yielded evidence for

both Mesopotamian and Anatolian forms of administrative (sealing) technology. Mesopotamian record-keeping technology is easily recognizable in its use of cylinder seals as opposed to the Anatolian use of stamp-seal technology. Local Anatolian-style stamp seals and seal impressions are present at Hacinebi in the precontact phase and continue in use in the contact phase B2.

Contemporaneous deposits in the northeast area of Hacinebi also yielded an almost complete range of standard Uruk administrative artifacts including jar sealings, jar stoppers, a hollow clay ball (*bullā*) filled with tokens, and a clay tablet—all bearing Uruk cylinder-seal impressions and all found in association with Uruk ceramics (fig. 7.12). These record-keeping devices are common at southern Mesopotamian urban sites such as Uruk and are common at Uruk colonies such as Habuba Kabira, Jebel Aruda, Tell Sheikh Hassan, and Hassek Hüyük (Behm-Blancke 1992; Boese 1995; Nissen et al. 1993; Sørensen 1986b; Van Driel 1983).

Instrumental neutron activation analyses (INAA) of the sealing clays by Blackman (1998) complement the iconographic studies to provide further evidence for the presence of a Mesopotamian trading enclave at Hacinebi. Blackman compared the chemical compositions of the clay artifacts bearing Anatolian stamp-seal impressions with those bearing Uruk cylinder-seal impressions.

Two results are of particular importance. First, the Uruk-style sealings were chemically distinct from the contemporaneous Anatolian-style sealings. Second, the Uruk-style sealings could be divided into two subgroups. One consisted of Uruk-style sealings on local clays, indicating that the Uruk cylinder seals were being used on-site at Hacinebi. This subgroup included the cylinder-seal-impressed *bullā* with tokens (fig. 7.12A,B). The other subgroup consisted of Uruk-style sealings on nonlocal clays that most closely matched provenienced samples from the Susa area, one of the main urban centers in the Uruk heartland. This second subgroup included the cylinder-seal-impressed tablet (fig. 7.12C).

These INAA results suggest the presence of two contemporaneous groups of people at the site, each using their own record-keeping system. The people using the Anatolian-style stamp seals used only local clays, presumably for local transactions (although we cannot exclude the possibility that they may also have been exporting goods from the site). The people using the Uruk-style cylinder seals were both receiving sealed goods from southern Mesopotamia, while also sealing containers and keeping records on local clays. This fits exactly with what one would expect for a trading colony that maintained close economic ties with its homeland.

Finally, behavioral patterning at Hacinebi is consistent with the artifacts

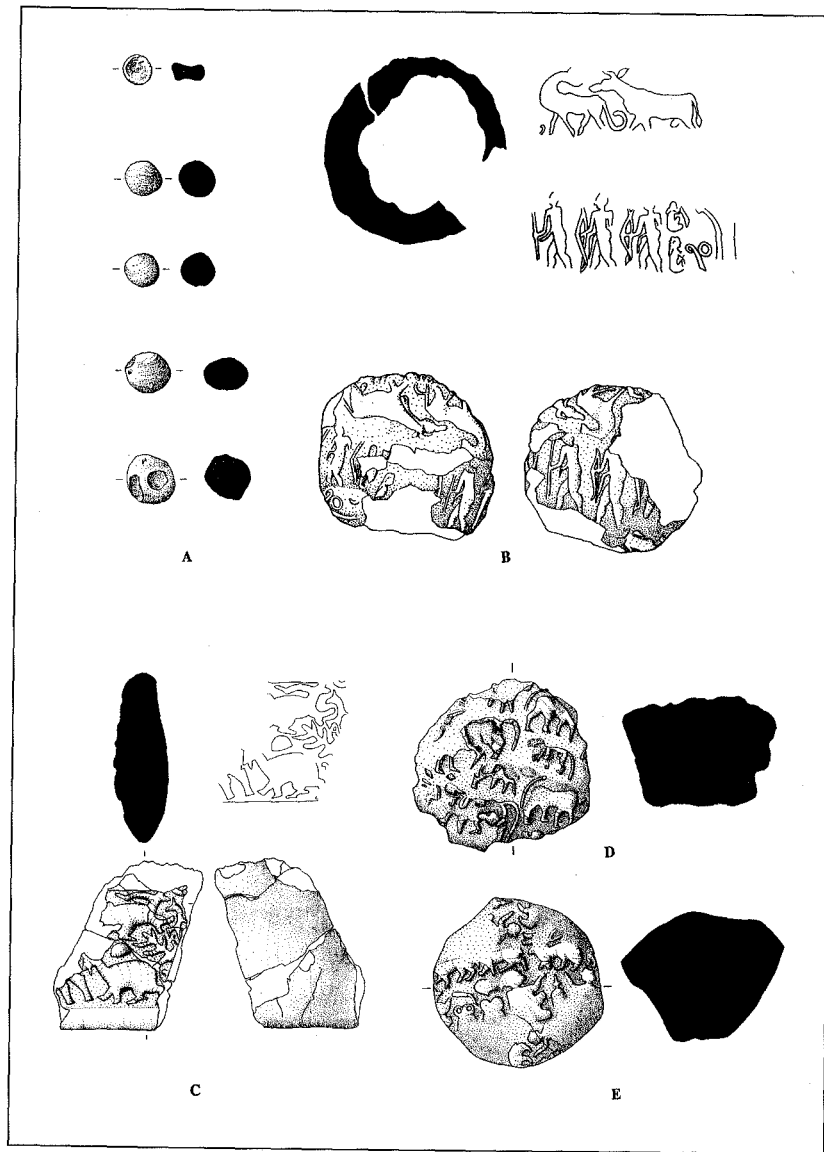


Figure 7.12. Contact phase B2, Uruk Mesopotamian, cylinder-seal-impressed administrative technology (hollow clay ball, tokens, tablet, and jar stoppers) from Hacinebi Tepe.

in matching the expected profile of a Mesopotamian colony. Animal bone remains can provide particularly strong evidence for the presence of a Mesopotamian enclave at Hacinebi, because food consumption patterns are often very culture specific (Crabtree 1990; Emberling 1997; McKee 1987). The presence of such an enclave should be reflected by clear differences in food preferences, food preparation procedures, and butchery practices.

Ongoing analyses show that major differences exist in the relative abundances of different animal species between those parts of Hacinebi with Uruk material culture and those where the local Anatolian assemblage predominates ($n = 3949$ fragments from Uruk contexts and $n = 1031$ fragments from B2 local contexts). The faunal remains associated with Uruk artifacts at Hacinebi match closely with known Mesopotamian food preferences and differ markedly from the animal bones associated with Anatolian contexts (fig. 7.13; see also Stein and Nicola 1996 for similar conclusions based on a pilot study of the fauna). At the same time, preliminary analyses by Benjamin Lerner of butchery patterns show marked differences in the widths and locations of cut marks between the Uruk and local Anatolian parts of the phase B2 settlement (fig. 7.14; see also Stein 1997b).

Taken together, the distinctively Mesopotamian ceramic, architectural, administrative, and other forms of material culture used in both public and domestic contexts at Hacinebi are completely consistent with both general criteria for the identification of colonies in the archaeological record, and with the specific complex of material characteristic of Uruk colonies and settlements in the southern Mesopotamian homeland (tables 7.2 and 7.3).

The Organization of the Mesopotamian Colony

How was this Uruk trade diaspora organized? What was the nature of the interaction between the foreigners and their indigenous host community?

We have absolutely no evidence for fortifications, weapons, warfare, or violent destruction in the contact phase B2 settlement. All indications are that the relations between the Mesopotamian trade-diaspora and its local Anatolian host community were peaceful and long lasting, for a period of at least three hundred and possibly as long as five hundred years (based on calibrated radiocarbon dates; see Stein 1997a:fig. 12). A second key feature is that the Uruk colonists were a small minority at Hacinebi; the distributions of ceramics, administrative technology, and faunal remains suggest that the foreign enclave was mainly concentrated in the northeast corner of the site; the local Anatolian population seems to have occupied the other areas.

One of the most significant aspects of culture contact at Hacinebi is the

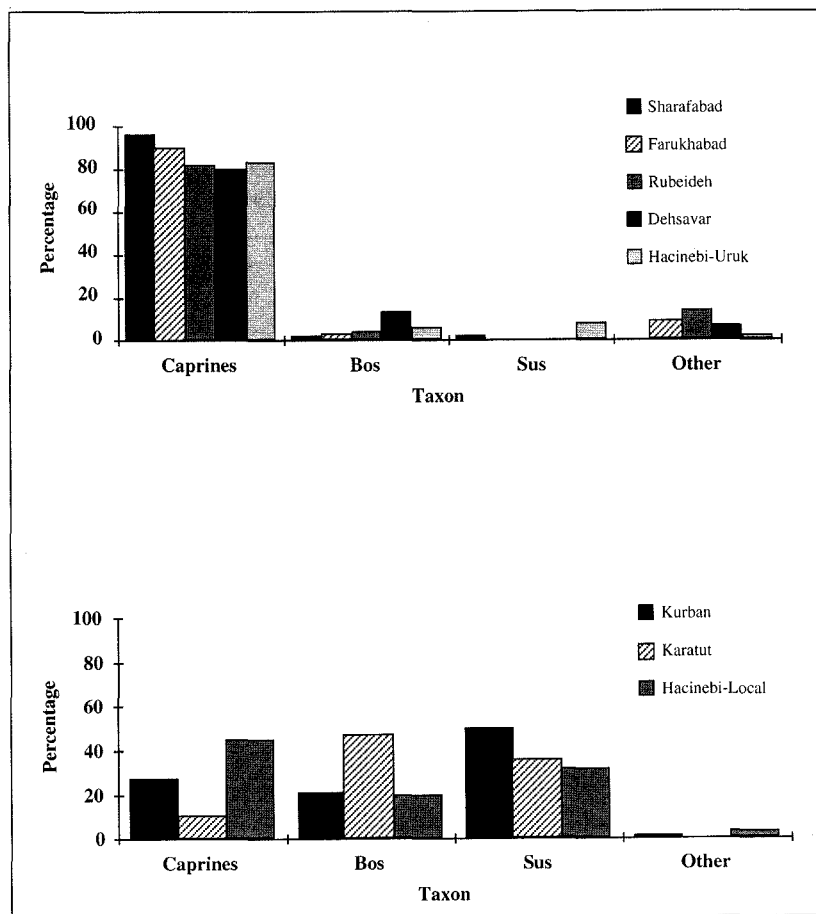


Figure 7.13. Contact phase B2 fauna at Hacinebi Tepe: (top) compared with Mesopotamian Uruk fauna; (bottom) compared with southeast Anatolian local fauna.

evidence that the Uruk colony did not dominate the local Anatolian community either economically or politically. We can infer this from the absence of any evidence for tribute and from the fact that both the Mesopotamians and Anatolians each maintained their own parallel record-keeping systems of seals and sealings with little exchange between the two (Stein 1998).

Comparative analyses of ceramics, chipped-stone, fauna, and record-keeping (administrative) artifacts from the Mesopotamian and local parts of

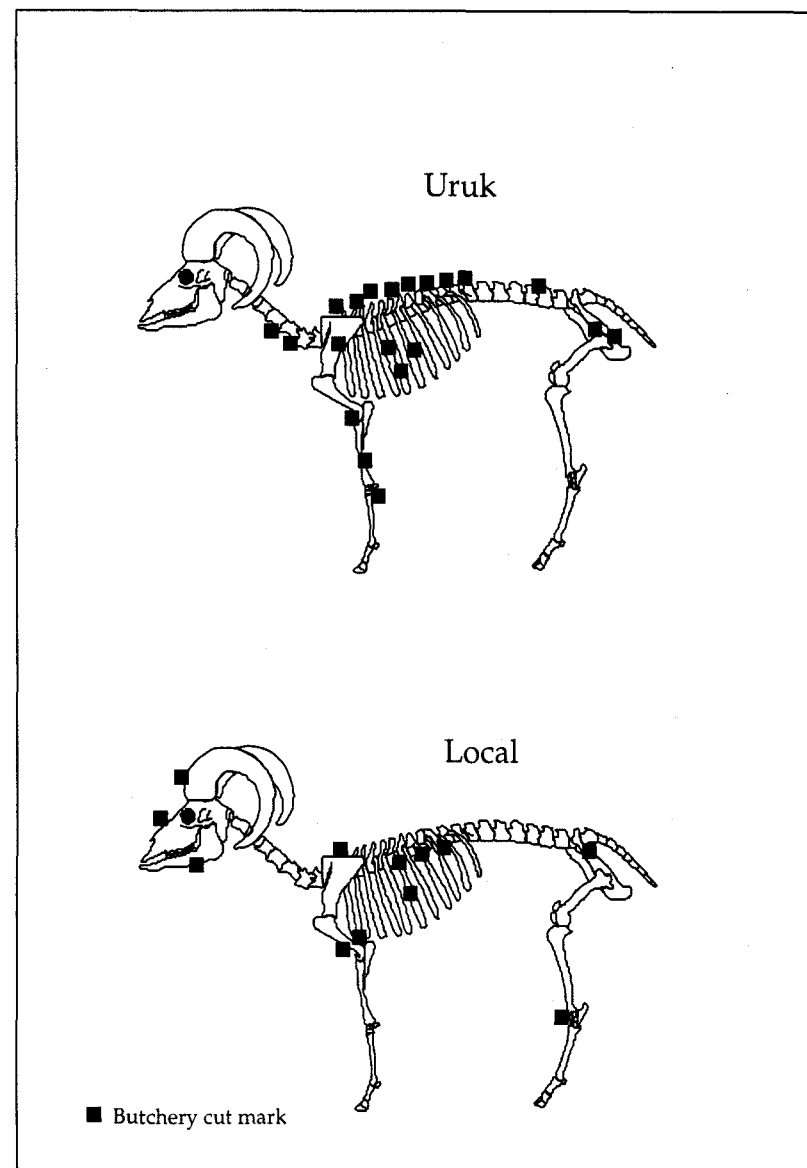


Figure 7.14. Contact phase B2, sheep/goat butchery patterns from Uruk and local contexts at Hacinebi Tepe.

Table 7.2. General criteria for archaeological identification of colonies and evidence from Hacinebi Tepe.

| Criterion | Evidence from Hacinebi |
|--|---|
| Homeland styles in public architecture | Uruk wall cone ornaments for public architecture |
| Homeland styles | |
| Dress | — |
| Ornament | Uruk-style copper pin |
| Burial customs | Absence of onsite adult burials in Hacinebi and Uruk Mesopotamia |
| Contiguous residence in a spatially distinct quarter | Concentration of Uruk material in northeast corner of site |
| Culinary practices distinct from local patterns but like homeland cultural practices | Food preferences in Uruk contexts match Mesopotamia; different butchery patterns in Uruk and local deposits |
| Use of homeland raw materials | Mesopotamian bitumen and sealing clays in contexts with Uruk-style material culture |

Source: Santley et al. 1987:87–88.

Hacinebi suggest that the Uruk enclave was a socially and economically autonomous diaspora whose members raised their own food, produced their own crafts, and administered their own encapsulated or circumscribed exchange system.

Ceramics. In many cases, both Uruk and local ceramics occur together in the same contact phase deposits. But it is also common to see remarkable contrasts (fig. 7.15) between contexts consisting of local Anatolian types, whereas contemporaneous deposits nearby yielded almost exclusively Uruk Mesopotamian ceramics (Stein and Mısırlı 1994; Pollock and Coursey 1996). In almost all cases, both the Uruk and local deposits are trash, that is, not in situ. However, the striking contrast between the two contemporaneous sets indicates that at some nearby part of the site, Uruk ceramics and local Anatolian ceramics were being used and then discarded separately.

A more detailed look shows that the differences go beyond a simple dichotomy in cultural affiliation. The forms and dimensions of the ceramics also show clear contrasts in the functions or activities represented in the Uruk and Anatolian assemblages. In the Uruk deposits, over 90% of the ceramics are bowls, mainly massive amounts of beveled-rim bowls. The Uruk

bowls are not only more numerous, but also much smaller than the Anatolian bowls. Most Uruk bowls have rim diameters between 8 and 22 cm, whereas most local bowls range from 25 and 40 cm. By contrast, the local Anatolian ceramic assemblages are more evenly divided among bowls, jars, and the distinctive local casserole cooking vessels (fig. 7.16).

We can also see other important functional differences between the two samples. Cooking vessels, mainly casseroles, form about 21% of the ceramics in the Anatolian deposits. By contrast, local casseroles and Uruk strap-handled cooking pots together form less than 1% of the ceramics in the Uruk deposits. The percentages of vessel forms and dimensions suggest that the Anatolian ceramics are a typical domestic assemblage used for food preparation, serving, and storage. Although storage and food preparation are represented in the Uruk deposits, the predominance of beveled-rim bowls suggests that, in addition to normal domestic activities, some kind of highly specialized function was also taking place.

Bitumen. The presence and processing of bitumen points to additional differences between the Uruk and Anatolian parts of the site. As noted above, bitumen occurs frequently at Uruk sites in southern Mesopotamia. At

Table 7.3. Specific criteria for archaeological identification of Uruk colonies and evidence from Hacinebi Tepe.

| Criterion | Evidence from Hacinebi |
|---|--|
| Full functional range of Uruk ceramic types | Full functional range of Uruk ceramic types |
| Uruk administrative technology: cylinder seals, sealings, tablets, bullae, and tokens | Uruk administrative technology: cylinder sealings, tablets, bullae, and tokens |
| Copper production | Copper production |
| Use of clay wall cones to decorate public buildings | Clay wall cones present |
| Tripartite house with “middle hall” plan | — |
| Sculpture in round or relief | — |
| Uruk small objects | Uruk clay sickles, cruciform grooved weights, and copper pins present |

Source: Strenghagen 1986b:9–10.

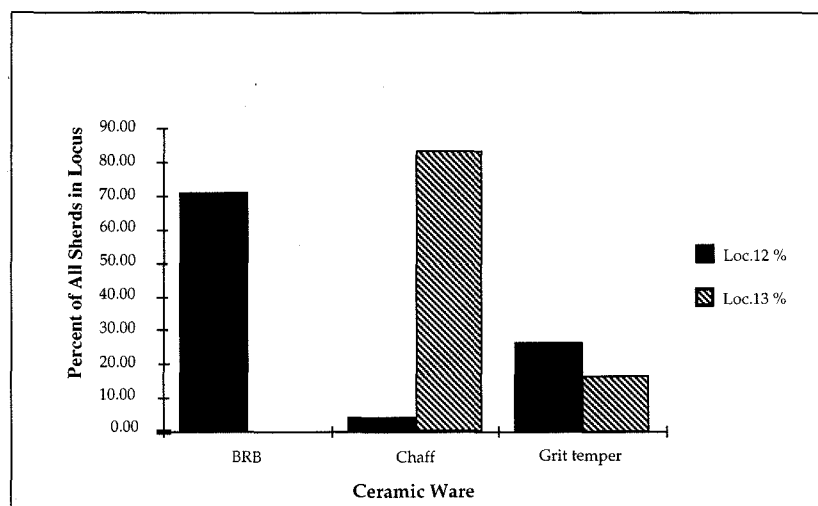


Figure 7.15. Contact phase B2 ceramic ware types from Uruk (locus 12) and local (locus 13) contexts at Hacinebi Tepe. BRB = Uruk bevel rim bowls.

Hacinebi, bitumen occurs most frequently in association with Uruk material culture. Bitumen occurs in three main forms: as residues on ceramics (predominantly on Uruk forms), blocks, and shaped pieces, which represent production debris, bulk storage, and finished products, respectively. All forms are far more common in the Uruk deposits.

Some of the bitumen residues on ceramics may reflect the use of this material as a waterproof sealant. However, the dribble patterns and locations of bitumen on many beveled-rim bowls and in the spouts of conical cups suggest that blocks of solid bitumen were being melted down and poured as an industrial activity in the midden in the Uruk deposits. There is no evidence for this activity on the Anatolian side.

Geochemical analyses of the bitumen by French and American research groups suggest that at least some of the Hacinebi bitumen is chemically identical to the bitumen from the Uruk colony at Habuba Kabira, and that both groups of samples are consistent with the composition of the Hit bitumen source in Mesopotamia (Stein and Mısırlı 1994; see also Connan and Deschesne 1991, 1996 for overviews of provenience studies of bitumen). Other samples best match sources on the Deh Luran plain, also part of the southern Uruk area (M. Schwartz 1998).

The ceramic and bitumen evidence suggest that the Mesopotamian

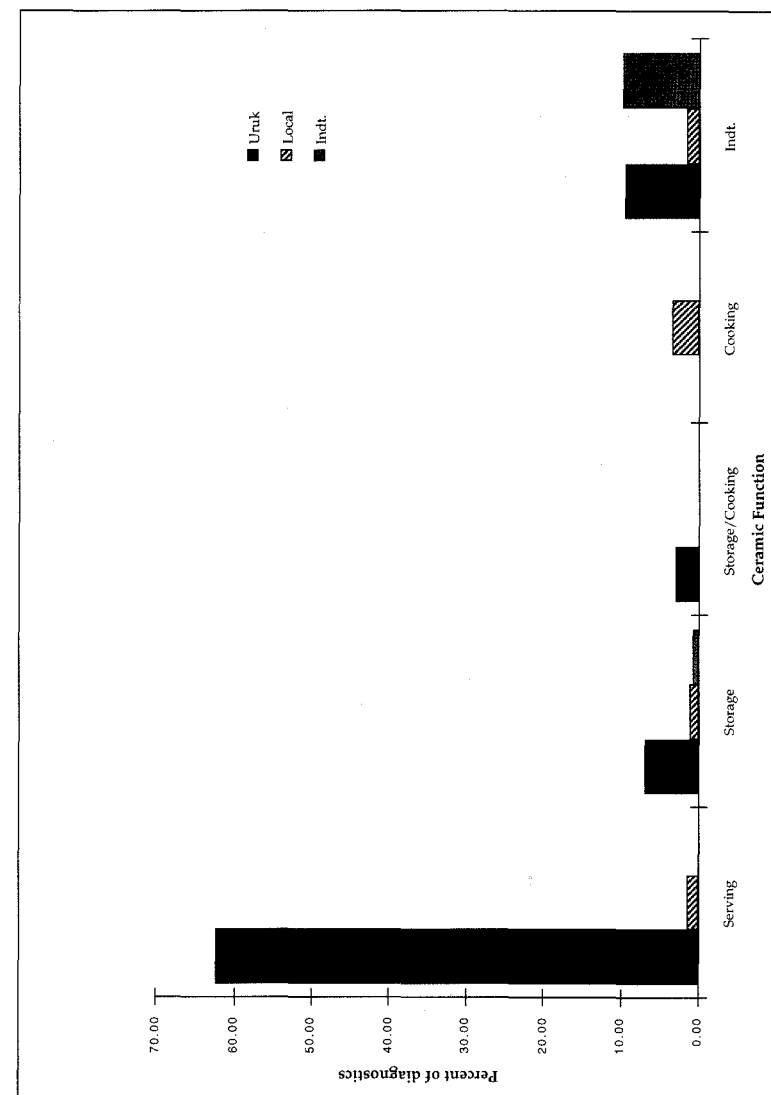


Figure 7.16. Contact phase B2 ceramics, compared by function, from Uruk and local contexts at Hacinebi Tepe. Indt. = indeterminate. N = 529; bevel rim bowls are omitted.

enclave was engaged in some specialized activities that were not practiced by the local Anatolian host community. But these differences should not mask the overall pattern of two parallel economies in the Mesopotamian and Anatolian communities. A variety of artifact classes show that the people who generated the trash in Uruk and local contexts were engaged in similar types of activities, suggesting low levels of intracommunity exchange, and a high degree of socioeconomic autonomy in the Uruk enclave. This autonomy can be seen in the socially encapsulated nature of craft production, subsistence, and exchange-related administrative activities.

Chipped Stone. Patterns of chipped-stone tool production and use suggest that the Uruk enclave at Hacinebi was characterized by a high degree of economic autonomy in both subsistence and craft production. Uruk deposits show clear evidence for stone-tool manufacturing. The frequency of secondary flakes with large areas of cortex reflects early stages in the manufacture of large Canaanite blades made from a distinctive medium-banded cream or tan chert.

The presence of this raw material and of secondary flakes in local Late Chalcolithic deposits as well suggests that blade tool manufacture took place concurrently in both Uruk and Anatolian parts of the site. Stone-tool forms in the Uruk and Anatolian midden deposits suggest that both parts of the site were engaged in agricultural production (C. Edens 1996, 1997; Wright and Bernbeck 1996).

Many of the Canaanite blades show traces of bitumen hafting in the typical locations for sickle blades. Similarly, silica gloss, or "sickle sheen," is present on at least some blades from both areas. This is important because it suggests that the people who generated the midden on the Uruk side of the wall at Hacinebi were harvesting cereals. This contrasts with the near absence of sickle blades at the Uruk colony of Habuba Kabira in Syria. On this basis, Sørensen (1986b:22) has suggested that the Uruk colonists were supplied with food by the local population.

The same forms of stone tools were produced by both the Mesopotamian and Anatolian communities, Canaanite blades and simple blades from contexts with Mesopotamian material culture match the dimensions of these tool types in the Mesopotamian homeland and are significantly smaller than Canaanite and simple blades from Anatolian contexts (Edens 1996). These differences are consistent with ethnically specific contrasts in technological style (Lechtman 1977; Wright 1993) between Mesopotamians and Anatolians at Hacinebi.

Overall, the lithic evidence indicates three patterns. First, both Anato-

lians and Mesopotamians at Hacinebi had access to the same raw materials. Second, both the Uruk and Anatolian areas were independently manufacturing parallel tool forms although there may have been some ethnically distinctive differences in the technological styles they used to make particular blade types. Finally, both the Uruk and local areas were engaged in agricultural production and had some kind of regular access to agricultural land.

Textiles, Metals, and Other Crafts. Other craft activities were also practiced simultaneously but separately by the Mesopotamian and local communities. Ceramic spindle whorls are present in both areas, suggesting that both groups were weaving their own textiles. Spindle-whorl styles show no differences between Uruk and local contexts (Keith 1997). Similarly, finds of Uruk-style kiln wasters indicate that the foreign enclave was manufacturing its own pottery, following southern Mesopotamian technological practices and stylistic conventions. A few minor variations have been noted in the ways that stylistic motifs were combined on Uruk ceramics at Hacinebi, perhaps reflecting the relative isolation of Uruk potters at Hacinebi from their homeland 1300 km to the south.

Copper manufacturing debris such as open-faced casting molds and crucible fragments have been found in both Uruk and Anatolian parts of the site. Most remarkably, a fragment of unprocessed raw malachite (a form of copper ore) was found adhering to the wall of a typical Uruk beveled-rim bowl. One intriguing (albeit speculative) suggestion is that the bowl was being used as a measuring scoop for the malachite ore by metalworkers of traders at the site (Özbal 1997).

The presence of raw materials and manufacturing debris suggests that the Mesopotamians were directly engaged in copper working, perhaps in addition to obtaining finished copper ingots or objects from local trading partners. Thus, basic craft goods such as stone tools, ceramics, metals, and textiles were all produced in parallel by both the Uruk and Anatolian communities.

Administrative Technology. The Uruk administrative technology coexists with, but is separate from, the local stamp seals and sealings. Seal-impressed administrative artifacts and unused sealing clays are found in both Uruk and local Anatolian deposits, confirming that each group monitored the movement of commodities. The two sealing systems differ in technology, iconography, function, and pathways of economic circulation. The Mesopotamian record-keeping system used cylinder seals, with motifs showing animal processions or work scenes. Uruk cylinder seals were impressed on bullae,

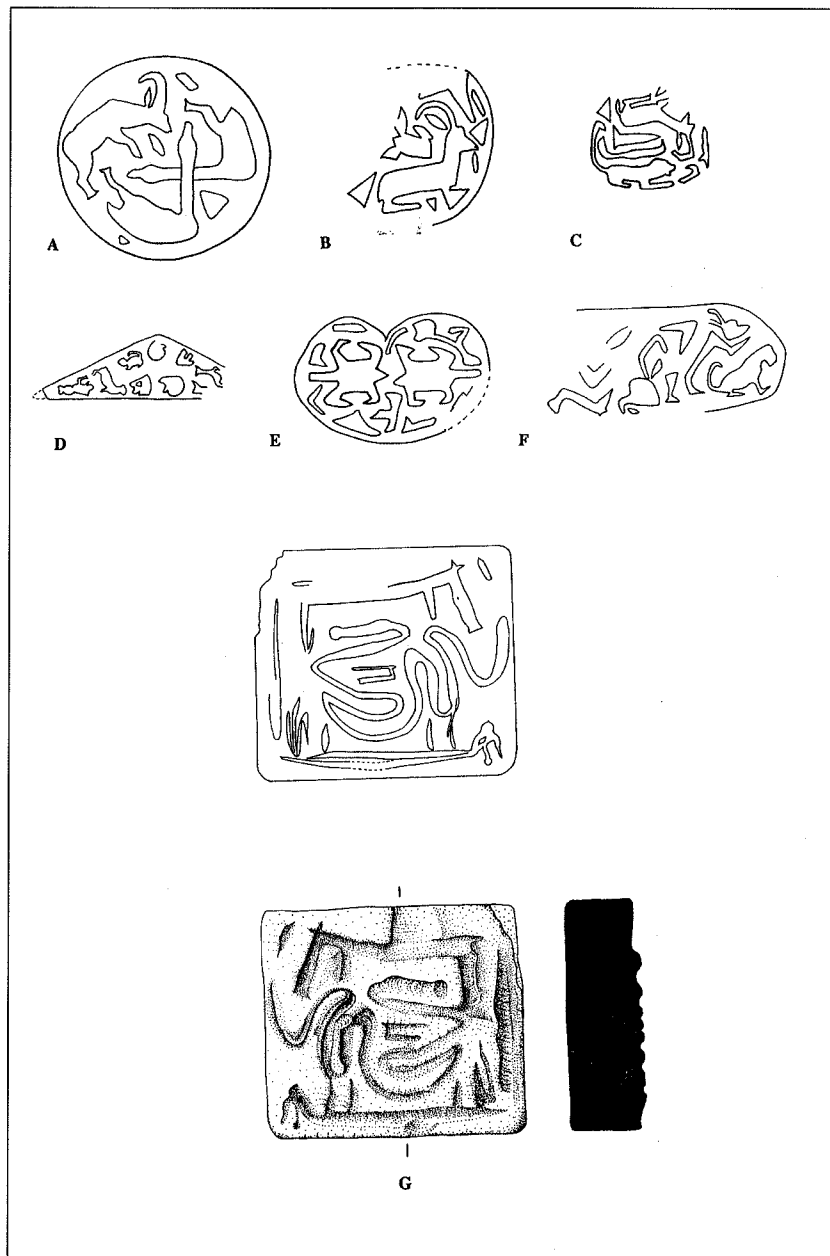


Figure 7.17. Contact phase B2, local Late Chalcolithic, stamp-seal-impressed administrative technology from Hacinebi Tepe.

on tablets, on mushroom-shaped clay jar stoppers, and most frequently on clay sealings affixed to the rim or exterior of ceramic vessels.

By contrast, the Anatolian system consisted of rectangular or round stamp seals that created a single image each time the seal was pressed into the wet clay lumps affixed to the container closures. Phase B2 Anatolian seals almost always depicted lions and caprids in chase or hunt scenes (Pittman 1996b). The two systems were used for completely different functions. Anatolian stamp-seal impressions at Hacinebi are found on sealings affixed to wooden boxes, packets of reed matting, leather bags, and cloth sacks. They never appear on ceramic vessels, tablets, jar stoppers, or bullae (fig. 7.17).

Most telling of all, a comparison of the administrative artifacts with the distribution of other classes of material culture shows very low levels of interaction between the Uruk and local spheres of exchange. Thus, if Anatolians were delivering supplies as trade goods or tribute to the Mesopotamians, we would expect to see the discarded local stamp sealings in Uruk Mesopotamian contexts. This is not the case.

Instead, Uruk-style, cylinder-sealed, record-keeping artifacts occur exclusively with Uruk-style ceramics, whereas local-style stamp-sealed administrative artifacts are found almost always with local Anatolian ceramics. Out of more than one hundred local stamp-seal impressions, only two were found in deposits with Uruk ceramics and Uruk administrative technology. These few cases of Anatolian sealings in Uruk deposits are important because they confirm the contemporaneity of the two record-keeping systems while emphasizing that they were used to seal different goods that moved in separate economic spheres.

The distribution of sealings suggests the operation of two autonomous, minimally interacting systems monitoring separate sets of economic transactions, rather than the kinds of commodity flows to be expected if the Uruk colony were exercising political or economic dominance over its Anatolian host community.

Fauna. Were the people in the Uruk enclave being provided with meat, or were they raising and processing their own animals? We can examine this question by seeing what body parts are present in the Uruk and Anatolian parts of the site. Generally, when a sheep or goat is butchered, the head and foot bones are removed and discarded as elements with little meat value. By contrast, the fleshiest body parts are the forelimb and hind limb.

If the people in the Uruk enclave were receiving meat from elsewhere, then we would expect to see many limb bones, but very few head or foot bones. However, given that all of the main body parts are present, and there

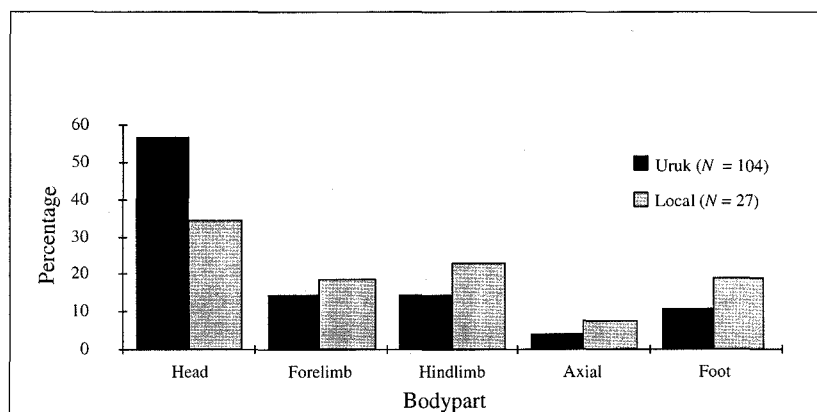


Figure 7.18. Contact phase B2, caprine body-part distributions from Uruk and local contexts at Hacinebi Tepe.

is no clear predominance of the meat rich limb bones (fig. 7.18), the available evidence suggests that the people on both the Uruk and local contexts were raising and butchering their own animals, and were not being provided with meat from any other part of the site.

Excavations and artifact analyses thus indicate five important aspects of relations between the Uruk colony and its local host community at Hacinebi. First, the colonists were a small minority. Second, interaction between the Mesopotamians and the Anatolians was peaceful. Third, the colonists did not dominate the locals either economically or politically. Fourth, the colonists and the locals seem to have been economically autonomous, self-sufficient, encapsulated communities. Finally, calibrated radiocarbon dates and ceramic styles suggest that the colonists were present and retained a distinct foreign social identity at Hacinebi during the middle Uruk and the first part of the late Uruk period (three hundred to five hundred years).

Exchange. Why did the Mesopotamians establish a long-term presence at Hacinebi in the first place? Based on the available evidence from the precontact and contact phases, the Uruk colony was apparently established to tap into the preexisting southeast Anatolian copper-exchange network, and to extend it southward to Mesopotamia, although most of the actual goods exchanged in this network remain very difficult to pin down with any certainty.

The phase B2 economic evidence suggests that the Mesopotamians were engaged in the working of copper obtained through exchange, most likely with the local elites at Hacinebi or possibly more directly with Anatolian traders who might have come to the site from the upstream copper-source areas. Although there is no direct evidence from Hacinebi, we can suggest from natural resource distributions that the Mesopotamians may also have been procuring Anatolian lumber, gold, and semiprecious stones for shipment downstream to the Uruk heartland.

The intensive use of bowls and bitumen in Uruk deposits at Hacinebi may also have been related to exchange activities if the latter material was being used (or recycled from use) as a sealant inside containers for liquid storage/transport. Unfortunately, the paucity of the available evidence makes it difficult to determine if this was, in fact, the case.

We do not know what goods the Mesopotamians traded in return for these items. We have already noted that the economics of upstream transport would almost certainly have limited Mesopotamian exports to prestige items or other goods with a high ratio of value to weight (or bulk). Based on analogies with the textual record of Mesopotamian exchange and colonial networks in the third and second millennia B.C., researchers have suggested that these items may have been high-quality wool textiles, oils or aromatics, or some other distinctively Mesopotamian prestige good (e.g., Algaze 1993b:74–75).

Although wine was apparently a fourth-millennium trade item, residue analyses of ceramic vessels from the city of Uruk suggest that this consumable prestige good was imported to Mesopotamia from the grape-growing regions of southeast Anatolia, Syria, and the Zagros (e.g., Badler et al. 1996), rather than being an Uruk export to these latter areas.

Unfortunately, these hypothesized Uruk trade goods must remain speculative, given that these are “invisible exports” (Crawford 1973) that are almost never preserved in the archaeological record. The Uruk merchants may also have served as middlemen, transshipping non-Mesopotamian goods to the local elites at Hacinebi.

Thus, for example, in the well-known old Assyrian colonial-trading network of the early second millennium B.C., the Mesopotamians exported woolen textiles (a local product of Assur) and transshipped tin (apparently acquired from Afghanistan) to local Anatolian polities (Larsen 1976; Veenhof 1972). If this was indeed the case in the Late Chalcolithic period as well, then even nonperishable items would be very difficult to identify as trade goods brought by the Uruk merchants to Hacinebi.

Finally, even if the Uruk traders were providing durable prestige goods

(e.g., gold or silver) to Anatolian sites such as Hacinebi, we must remember that these items may simply be missing from the archaeological record because we have yet to excavate the specific contexts where they are most likely to be found: local elite burials or catastrophic destructions of elite residences dating to the contact phase.

Although engaged in exchange, the Uruk enclave at Hacinebi was also economically autonomous in the sense that it produced its own crops, pastoral products, and crafts. The Mesopotamians appear to have been able to survive as a distinct social group with its own identity, while maintaining both economic autonomy and peaceful relations with the elites of the local polity for an extended period of time. In the absence of any evidence for political, military, or economic domination, the most reasonable conclusion is that the foreigners were able to survive and flourish only at the sufferance of the local rulers, most likely by forging strategic alliances with them through marriage or exchange relations (Stein 1997b).

As discussed in chapter 5, a trade-diaspora can have a range of political or power relations with its host community, from pariah status through diaspora autonomy, to the extreme case of diaspora dominance, where the foreign enclave rules the indigenous population. The evidence presented here is consistent with the organization of the Mesopotamian enclave at Hacinebi as a socially autonomous and encapsulated trade-diaspora that dealt with its host community as an equal, rather than as a colonial master.

Tests of the World-System and Distance-Parity Models at Hacinebi

The evidence for Mesopotamian-Anatolian colonial interaction at Hacinebi is extensive. The site clearly fits the classic world-system model's definition of a periphery. As such, Hacinebi provides ideal data to evaluate the archaeological correlates of the world-system and distance-parity models of interaction. Diachronic comparisons between the precontact and contact phases allow us to monitor the degree to which the indigenous societies of south-east Anatolia were affected by their participation in an interregional interaction network with Mesopotamia. At the same time, synchronic comparisons between the local and Uruk, contact phase B2 assemblages allow us to study in detail the political and economic dimensions of relations between these two groups.

As mentioned above, the archaeological correlates of the world-system

model should include (a) reconfiguration of local subsistence and craft organization toward the intensified specialist production of large-scale surpluses for export to the Mesopotamian core area, (b) evidence for asymmetric exchange under Mesopotamian control, and (c) evidence for a sudden increase in local social complexity as a result of trade interaction with Mesopotamia.

By contrast, archaeological evidence supporting the distance-parity model would include (a) subsistence level agriculture and craft production for local exchange and consumption, (b) evidence for symmetric exchange between Mesopotamians and Anatolians, and (c) continuities in the level of local social complexity. How do the contrasting archaeological correlates of these two models play out at Hacinebi?

Economic Specialization and Exchange

Did economic activities become more oriented toward the production of surpluses for long-distance exchange in the contact phase? We have no evidence for a sudden shift to increasing specialization and/or surplus production in the contact phase B2. Although sample sizes are small, the available archaeological, faunal, metallurgical, and lithic data are consistent in the picture they provide of stability and continuity in economic organization at the site. Analyses of the archaeobotanical remains show domesticated barley and wheat occurring in roughly equal proportions (based on ubiquity) in both the precontact and contact phases (table 7.4; see also Miller 1994a, 1996a,b).

There is no evidence for sudden increases in the importance of specific crop types, as one might expect with agricultural intensification. Nor is there any evidence for the introduction of irrigation as a form of intensification. (table 7.4). Similarly, the temporal distribution of plant parts such as wheat or barley internodes and spikelet forks shows no major changes in the location or intensity of crop-processing activities. Although grapes were apparently first domesticated in the fourth millennium, and are known to have been used for the production of wine as a luxury export good elsewhere in the Near East (Badler et al. 1990, 1996; Michel et al. 1993), there is no evidence to suggest a shift toward either grape cultivation or wine production at Hacinebi during the contact phase B2. The scarcity of olive remains at Hacinebi also argues against a shift toward intensive cultivation of this valuable product as a form of intensification or surplus production for export.

Faunal data can also provide a useful indicator of intensification and specialization in pastoral economy (Payne 1973; Stein 1987). Given the known importance of textiles in later Near Eastern trading networks (Crawford 1973; Larsen 1976, 1987; McCorriston 1997), increased participation in an

Table 7.4. Frequency of common plant types by Late Chalcolithic phase at Hacinebi Tepe.

| Plant Type | Phase A | Phase B2 (Local) | Phase B2 (Uruk) |
|---|---------|---------------------|--------------------|
| Crop and Food Plants | | | |
| <i>Hordeum vulgare</i> | 10 | 11 | 2 |
| <i>Triticum aestivum/durum</i> | 3 | 1 | 1 |
| <i>T. dicoccum</i> | 4 | 6 | — |
| <i>T. monoccum</i> | 6 | 2 | — |
| <i>Lathyrus</i> | 4 | 1 | — |
| <i>Lens</i> | 3 | 5 | 1 |
| Wild Plants | | | |
| <i>Vaccaria</i> | 2 | 2 | 1 |
| Compositae 1 | 1 | 3 | — |
| <i>Aegilops</i> | 5 | 2 | — |
| cf. <i>Echinaria</i> | 4 | 1 | — |
| <i>Hordeum murinum</i> type | 4 | — | — |
| <i>Lolium</i> cf. <i>remotum</i> | 11 | 10 | — |
| Gramineae 1 | 9 | 7 | — |
| Gramineae 2 | 4 | 2 | 1 |
| Gramineae 4 | 4 | 1 | — |
| <i>Teucrium</i> | 1 | 3 | — |
| <i>Astragalus</i> | 2 | 2 | — |
| <i>Coronilla</i> | 1 | 3 | — |
| <i>Trifolium/Melilotus</i> | 7 | 8 | 1 |
| <i>Trigonella astroites</i> type | 6 | 3 | — |
| <i>Trigonella</i> | 6 | 1 | — |
| <i>Gallium</i> | 3 | 6 | — |
| Plant Parts | | | |
| <i>Hordeum</i> internode | 3 | 2 | — |
| <i>T. monoccum/dicoccum</i> spikelet fork | 10 | 9 | 3 |
| <i>Aegilops</i> glume base | 6 | 1 | 1 |

Note: Data are shown only for genera identified in at least four samples. The total number of samples in phase A, phase B2 (local), and phase B2 (Uruk) were 11, 11, and 4, respectively.

Source: Miller 1996b:table 9.

interregional exchange system might be reflected at Hacinebi by a shift toward specialization in wool production.

Did pastoral production at Hacinebi intensify over the course of the fourth millennium? In the precontact phase A and B1 faunal assemblages, sheep and goats are the most common taxa, followed by pigs, with cattle a close third. This distribution suggests a relatively diversified herding economy, consistent with the risk averse strategies of village-based herders focused on subsistence level production for local use (Redding 1981; Stein 1989). The contact phase B2 fauna from local Anatolian contexts at Hacinebi show very close continuity with the diversified phase A pattern; although the percentage of caprines increases, there is no evidence for intensification or specialized surplus sheep/goat production by the Anatolian herders.

The ratio of sheep to goats remains relatively low: about 55:45%. The age data for the Hacinebi caprines also reinforce this interpretation. Specialization in wool production should appear as a shift toward older animals ranging from three to ten years and increased survivorship for males (because castrates are known to produce a particularly fluffy fiber).

The limited faunal data from Hacinebi show no major shifts in the ages at death of caprines. In both the precontact and contact phases, caprine mortality profiles were consistent with a generalized, subsistence-oriented herding strategy oriented toward production for local consumption (Bigelow 1997; Nicola 1994; Stein and Nicola 1996). Sheep and goats only occur in high percentages in the Uruk part of the phase B2 settlement.

Artifacts associated with metal working allow us to examine the degree of continuity or change in the organization of craft production at Hacinebi. As noted above, finds of smelting furnaces, crucibles, slag, casting molds, and finished metal products such as pins and chisels indicate that the inhabitants of Hacinebi were importing and processing copper ore from the north during the precontact phases A and B1. The discovery of casting molds, crucibles, and even unprocessed ores from phase B2 deposits suggests that copper procurement and production continued in the contact phase as well. The main difference is that these activities were now practiced by both Mesopotamians and Anatolians at the site.

The intrasite distributional evidence suggests that Mesopotamians were unable to monopolize either the exchange or the production of copper. Although we cannot determine whether production intensified during the contact phase, the scarcity of metallurgical equipment recovered from extensive excavations in three broad horizontal exposures totaling approximately 1300 m² suggests that this was probably a small-scale activity throughout the Late Chalcolithic occupation of the site.

Analyses of the chipped-stone tool assemblage also showed strong continuities in technology, tool types, and tool frequencies between the precontact and contact phases. There is no evidence for shifts in lithic raw material use, tool types, or degree of specialization in lithic manufacture. Nor do we see a significant increase in any of the agricultural or industrial activities for which the stone tools might have been used (e.g., agriculture, woodworking, and hide production). Within the contact phase proper, the lithic assemblage of the Mesopotamian enclave can be distinguished from that of its local neighbors by a preference for smaller blades, a greater emphasis on simple blades relative to Canaanian blades, and the occasional presence of tabular scrapers. However, the chipped-stone assemblages show no differences between the two groups in either the activities practiced or the intensity of production. (C. Edens 1996, 1997, 1998; Wright and Bernbeck 1996).

The zooarchaeological, archaeobotanical, metallurgical, and lithic evidence all show continuity between the precontact and contact phases, rather than shifts toward intensified agropastoral, metallurgical, or craft production of surpluses for export during the period of maximum interaction between Mesopotamia and southeast Anatolia. These results are consistent with the expectations of the distance-parity model.

The Degree of Symmetry in Exchange Relations

If Mesopotamian-Anatolian interaction was structured according to the expectations of the world-system model, then we would expect to see core (i.e., Mesopotamian) control over asymmetric exchange, and specifically core control over the trade routes.

If the distance-parity model applies, we would expect to see symmetric exchange, and no evidence for a core-controlled trade monopoly. The archaeological correlates of asymmetric exchange and core monopolies over the trade routes might be seen in evidence for (a) conflict/competition, (b) a disruption of preexisting trade routes, (c) a restriction in local access to strategic trade goods, such as copper, and (d) evidence that the locals were obtaining metals from Mesopotamians instead of from their traditional local trading partners to the north. None of these things seems to have taken place.

We have already seen above that relations between the Uruk colony at Hacinebi and its host community show no evidence for conflict. Nor is there any sign of disruption in the exchange system. The precontact network focused on procuring cowrie shell, chlorite/steatite, copper, silver, and bitumen from source areas to the west, north, and east; there is no evidence (neither trade goods nor stylistic similarities) for a regularized exchange connection to the south in the earliest fourth millennium.

During the contact phase B2, with the establishment of Uruk colonial outposts and enclaves along the Euphrates, preexisting contacts continue, but new trade axis is added in the form of connections southward to Mesopotamia. These new connections complement, rather than supplement, the older routes. At Hacinebi, there is no evidence for Mesopotamian monopolistic control over trade or the terms of trade. Instead, the evidence suggests that the precontact Anatolian exchange system continued to function alongside the Uruk trading network.

We can see this in four ways. First, the same trade goods occur in both the precontact and contact phases. Second, copper production debris is found in both Uruk and Anatolian parts of the contact phase settlement, indicating that neither group suffered any kind of restriction in access to this critical resource. Third, geochemical analyses of the bitumen from phase B2, albeit preliminary, suggest that the Anatolians continued to use non-Mesopotamian sources (possibly the Samsat area to the north, or the Batman area in the upper Tigris drainage to the east), whereas the Mesopotamians used bitumen from Hit and Deh Luran in the south (M. Schwartz 1998).

Finally, as noted above, the intrasite distributions of seals and sealings show Anatolian sealings associated with Anatolian material culture, and Uruk sealings associated with Uruk material culture, with little evidence for the administered movement of goods between the two social spheres.

The two groups sometimes used different trade routes and sources for the same kind of commodity (e.g., for bitumen or the goods packaged in it) and sometimes used the same trade routes and source areas for goods such as copper. But when the latter strategy was practiced, the Mesopotamian and Anatolian traders maintained autonomous, parallel exchange connections, with no evidence for an Uruk trade monopoly. The available evidence on interregional exchange thus matches the archaeological correlates of the distance-parity model, and does not support the expectations of the world-system model.

Local Social Complexity and Elites

The world-system model predicts a rapid increase in local social complexity as contact with the core builds up the power of local elites. The latter emulate core elites and become dependent on core prestige goods to legitimate their newly gained authority.

Under the distance-parity model, however, at the outer reaches of an interregional interaction network, rapid increases in local social complexity are possible, but not inevitable. Local elites may emulate core prestige symbols

but these would be selective borrowings transformed into a local idiom. The appropriation and transformation of foreign symbolic elements would carry no necessary implication of ideological, economic, or political dependency.

Schortman and Urban have pointed out that the ideological, economic, and political/military power of expansionary states extend unevenly across the social landscape (Schortman and Urban 1994). At the risk of oversimplification, it can be useful to think of the range of these forms of power as a set of concentric circles, where ideological power extends the furthest, economic power an intermediate distance, and political-military power has the most limited range of the three.

We might expect the transformative effects of an expansionary state on local identities to be greater in situations of outright conquest and political control over a nearby neighbor, but less pervasive when the expansionary state can exert only economic hegemony over a more distant polity. In those situations where the foreigners function as an autonomous trade-diaspora with no political or economic control over the indigenous host communities, then we would expect a different and much smaller-scale change in local identities.

In addition to the role of distance, the degree of preexisting social complexity in the host polity has an important effect on how local identities are transformed through interregional interaction. Crudely speaking, if the preexisting political organization is complex, if expansionary state power is limited by distance, and if local elites remain in place as a social group, then we would expect a lesser degree of change in the ideological realm of local identities.

Obviously there is no simple one-to-one correspondence between a particular form of power relations, on the one hand, and local identity transformation, on the other. However, even though the unique cultural character and history of any given society plays an important mediating role in the process of identity transformation, the realities of political economy tend to make some outcomes more likely than others.

In situations of culture contact between an expansionary state and less complex indigenous polities, we see a range of different and cross-culturally recurring processes of change in local identities.

Complete Appropriation of Foreign Ideologies and Identity. At one end of the spectrum is the complete appropriation of foreign ideologies and identity coupled with the collapse of the local culture and the near complete abandonment of traditional indigenous ideologies. Examples of this are the *genizaros* or detribalized Pueblo Indian groups during the period of the

Spanish conquest and colonization of the southwestern United States. As a result of depopulation, warfare, and population relocations, large numbers of Native Americans from different tribal groups were settled together in new mixed communities where they eventually redefined themselves as completely Spanish in terms of religion, language, and ethnicity during the seventeenth through nineteenth centuries (Kessell 1979:366–367, 416–417).

Selective Appropriation and Translation of Foreign Ideologies. A second common form of transformation is the selective and strategic appropriation of aspects of expansionary state ideologies and material culture by the indigenous polity. These borrowings are transformed, translated, and incorporated into preexisting local ideologies, so that in their new, indigenous synthesis they no longer have the linkages between material and ideology that characterized their original roles in the expansionary state. The result is a form of cultural hybridity characterized by the retention of many indigenous cultural forms alongside selected foreign symbols that now have distinctively local meanings (Hannerz 1987; Keesing 1994; Van Dommelen 1996).

Selective appropriation can occur in a variety of power relationships ranging from imperial control of a colonized group to the processes of emulation in an independent secondary state. Classic examples of this process would be the syncretic appropriation and translation of Roman Catholic saints into the West African Yoruba pantheon in the Santería religion of Cuba (Murphy 1994:81) or the fusion of Hellenistic and Persian ruling ideologies in the Parthian state (Eddy 1961:83–87).

Rejection of Foreign Ideologies and the Maintenance of Autonomous, Circumscribed Identities. At the opposite pole of this continuum is the creation or preservation of autonomous encapsulated identities. In such cases, the expansionary states and the local polities retain their own identities with few or no cross influences. This maintenance of identity differences is due not to inertia or stasis, but instead the result of deliberate decisions by groups with often conflicting political aims.

This active “nontransformation” can take place under very different forms of political economy or power relationships between the two polities. In cases of complete colonial domination, cultural separation and the maintenance of distinct identities may be imposed by the foreigners. But autonomous identities can also be deliberately maintained by the local people as a form of political and cultural resistance, often coupled with an intensification or reinvention of indigenous ideologies and material culture.

The ideology of local resistance can be grounded in warfare, as in the

case of German and Celtic rebellions against Rome (Dyson 1971), or it can be peaceful. A good example of this latter case is the Swadeshi movement in India, where Gandhi and his followers emphasized local crafts and products such as homespun khadi cloth as a simultaneous affirmation of Indian identity and a rejection of British colonial control (Bean 1989). Finally, the rejection of foreign ideologies, identities, and their material correlates may simply reflect the realities of parity in power relations, in situations where an expansionary state is unable to dominate a socially complex indigenous polity.

Identity and Interaction at Hacinebi

At Hacinebi, we have seen that local elites and social complexity were present and well developed before the period of intensive contact with Uruk Mesopotamia; there is no evidence for a sudden jump in the complexity of indigenous sociopolitical hierarchy. Unfortunately, we have no direct evidence for local elite organization in contact phase B2 and can only make indirect inferences based on the sealing technology. Here we see some possible emulation of Mesopotamian iconography in local elite material culture. But in all cases, Mesopotamian elements are completely transformed and absorbed into the local cultural idiom. Overall, the administrative and exchange systems show that the two groups had relatively low levels of interaction.

One of the most significant aspects of this minimal interaction between the two groups at Hacinebi is the fact that there is almost no evidence for transformations of local identity in either the elite or commoner social spheres. Anatolian and Mesopotamian styles of material culture coexisted in parallel but separate spheres for at least two hundred and possibly as long as three hundred years. In our analyses to date, local forms of architecture, ceramics, and lithics show virtually no signs of emulation or replacement by intrusive Mesopotamian styles. The local people seem to have appropriated only one bowl form (the beveled-rim bowl) out of the entire Mesopotamian repertoire.

If the local elites were emulating Mesopotamian ideologies or taking on Mesopotamian identities completely, then we would expect to see this reflected in the iconography, form, and function of the elite administrative or record-keeping technology. Seals, as individually crafted markers of ownership, status, and administrative control are almost ideal material representations of ideology and identity (Gibson and Biggs 1977; Nissen 1986b; Pittman 1994; Zettler 1987).

If local elite identities had been transformed to match those of Mesopotamian elites, then they would have abandoned the local style of stamp seals and replaced it with the standard Mesopotamian style of cylinder seal. This does not happen. What we see instead is the selective appropriation of Mesopotamian iconographic elements and their translation into the local cultural forms. As art historian Pittman has noted, the Anatolians took the concept of "protomes," or small animal heads, from the Mesopotamian cylinder seals, and incorporated them as secondary elements within their own indigenous iconography (fig. 7.17; see also Pittman 1996b). Aside from that, the traditional local system of stamp seals and their iconography remained both intact and distinct from that of its colonial neighbors.

Mesopotamian-Anatolian interaction at Hacinebi thus provides a classic example of the nontransformation of identities in an interregional exchange system. There was almost certainly an Uruk colonial enclave at Hacinebi, but it had little or no power over the local polity. The foreign group was numerically small, and more than 1000 km away from its homeland. The Mesopotamians were dealing with a local polity that was already complex, and whose elite structure and ideology remained intact over the course of three to five centuries of colonial-local interaction.

The archaeological record at Hacinebi indicates that the combination of distance from homeland and local complexity led to an essential parity in power relations so that the Mesopotamians could not exercise political, military, economic, or even ideological dominance over the Anatolian host community. As a small minority under these conditions, the Mesopotamian trade-diaspora was only able to survive at Hacinebi because the local rulers permitted it. The colonists were certainly in no position to impose foreign ideologies on the local people.

Nor is there any *a priori* reason for Mesopotamian culture to have been irresistibly attractive to the Anatolians as an object of voluntary emulation. The Anatolians did not need to appropriate Mesopotamian identities for economic reasons. The foreigners had to approach the Anatolians for access to vital resources such as copper, not vice versa. Local elite and commoner ideologies were already functioning quite effectively and had no real reason to change.

Under these conditions of political economy and local history, it is hardly surprising that the Anatolian elites actively maintained a distinct local identity throughout the period of intensive interaction with Mesopotamia in the fourth millennium B.C. The preexisting local social complexity at Hacinebi, combined with the lack of evidence for either an increase in complexity or large-scale local elite emulation, are all consistent with the archaeological correlates of the distance-parity model.

Overview: The Mesopotamian Trade-Diaspora and Local Political Economy

The presence at Hacinebi of both precontact and contact phases, with an Uruk colonial enclave inside an indigenous host community, provides a unique opportunity to test the archaeological correlates of the world-system and distance-parity interaction models. Under the distance-parity model, one would expect the core to dominate the periphery if the latter were geographically close, technologically simple relative to the core, less populous than the core, and less complex in sociopolitical terms. However, if a periphery is geographically distant, technologically advanced, populous, and socially complex, then the distance-parity model would predict symmetry in power relations with the core.

All the latter conditions apply in this test case. Hacinebi lies more than 1000 km upstream from the Uruk Mesopotamian heartland, making it extremely difficult to project the military and economic power of the core into this distant area. Hacinebi and the other polities of southeast Anatolia had mastered copper metallurgy, the most advanced pyrotechnology of the fourth millennium. In the relatively well-watered area of the Euphrates valley, the local cultures were populous, and certainly outnumbered the small groups of Mesopotamian colonists who entered the area. Moreover, although Hacinebi and the other polities of southeast Anatolia in the early fourth millennium lacked urbanism on the Mesopotamian scale, they were nonetheless socially complex.

The precontact settlement at Hacinebi had a hierarchical social organization, with hereditary elites, elaborate administrative systems, socioeconomic differentiation, craft specialization, advanced metallurgical technology, and active participation in an indigenous southeast Anatolian exchange network extending from the Mediterranean to the Tigris headwaters, and up into the resource rich highlands to the north. The Mesopotamian traders who settled at Hacinebi ca. 3700 B.C. did so as a small, autonomous trade-diaspora, flourishing through strategies of alliance with local elites not colonial dominance. Interaction between the two groups was peaceful and lasted for an extended period.

The Mesopotamians and their Anatolian host community maintained parallel, autonomous economic systems, with relatively low levels of exchange between the two. Both groups traded for copper and worked it on site. Each group relied on its own source areas for bitumen. Each group farmed its own land, herded its own animals, and manufactured its own

crafts, maintaining its own food preferences and technological styles as critical aspects of social identity. The organization of this interaction network and the extent to which it influenced indigenous sociopolitical structure both conform closely to the archaeological correlates of the distance-parity model, rather than to the colonial dominance relations to be expected under the world-system construct. Local exchange systems did not shift toward the specialized production of surpluses for exchange with the core.

There is no evidence for core control over an asymmetric/unequal exchange system at Hacinebi. Instead, the evidence suggests that local groups retained their access to the preexisting trade network and allowed Uruk merchants to participate as an autonomous group focused on extending the trade routes to supply southern Mesopotamia as well. The Mesopotamians did not (and were probably unable to) extract tribute or taxes from the local population. Instead, the colonists functioned as a socially and economically autonomous trade-diaspora that produced its own subsistence goods and crafts, rather than extracting these from their Anatolian host community.

We see no evidence for a rapid increase in local complexity as a result of the Uruk expansion into this area. The local polity was already quite complex, so that the establishment of Mesopotamian colonies in the area did not have a major destabilizing effect. In fact, we can speculate from the Mesopotamians' long-term peaceful survival as a foreign enclave that they were useful and probably profitable allies for local elites.

Finally, one of the strongest arguments for a distance-based parity in power relations between the two groups can be seen in the fact that the Mesopotamians had only minimal ideological influence on local Anatolian elites, as can be seen in the fact that the latter retained their traditional stamp-seal technology and iconography, even in the face of constant exposure to the Mesopotamian cylinder seal technology and iconography.

Thus, we can reject the world-system model's assumptions of core dominance, asymmetric exchange, and trade as the prime mover for social change. Multiple lines of evidence from Hacinebi suggest that the organization of interregional interaction in the world's earliest colonial network is best understood through the distance-parity model and a flexible view of trade-diasporas, where local agency plays a crucial role in structuring power relations between polities.

8

Power, Distance, and Variation in the Interaction Networks of Ancient Complex Societies

In the preceding chapters, I have critiqued the world-system model, proposed a set of alternative analytical constructs (the distance-parity and trade-diaspora models), specified ways to test the contrasting expectations of these two sets of models, and then evaluated the models by examining power relations in the world's earliest colonial network: Mesopotamian expansion in the Uruk period. We have seen that the organization of interaction between Mesopotamians and their indigenous host community at Hacinebi conformed closely to the archaeological correlates of the distance-parity model and did not support the expectations of the world-system model.

The World-System Model

The world-system model has been so broadly defined and uncritically applied that it has lost any heuristic value, except as shorthand for an interregional interaction system linking complex societies with other groups. At the same time, the model carries with it a set of basic assumptions: core dominance, unequal exchange, and trade as a prime mover.

These assumptions stem to a large extent from the model's explicit goal of explaining the European colonial expansion in global perspective from the sixteenth through the nineteenth centuries A.D. By assuming these things, we blind ourselves to the importance of internal dynamics in explaining the development of the so-called peripheral societies and impede our own understanding of the complex relations between polities in an interregional interaction network.

I have critiqued these assumptions on a variety of theoretical and empirical grounds. Interregional interaction clearly plays an important role in the origins and developmental trajectories of early complex societies, but it is not the only factor. Overall, the world-system model consistently overemphasizes the role of the interregional sphere and reifies this by referring to it as a system. World-system theorists, even in the most recent reformulations of the concept, explicitly state that it is the world-system as a whole that evolves, rather than its constituent polities.

Again, this is misleading and predetermines the outcome of our analyses. Macrolevel entities usually lack the cohesion and integration to be able to structure local processes. Thus, we need to build into our models the recognition that smaller scale polities can have an enormous effect on the organization of interregional interaction. For that reason, I have deliberately used the more flexible term "network" in preference to the more structured, deterministic idea of a "system."

Anthropologists, and especially archaeologists, have recognized these and other flaws of the world-system model and have quietly jettisoned many of its most inappropriate tenets. Unfortunately, in attempting to retain an explicit recognition of the importance of interregional interaction, they have retained the terminology of Wallerstein's model, including the intellectual baggage of its basic epistemology. I have argued here that this is unnecessary and have proposed two alternative models that recognize the theoretical importance of interregional interaction without insisting that it is the primary structuring factor in all places and times.

Even in its modified form, the world-system model simply does not work as a general construct. Although largely appropriate for the specific case of the European capitalist expansion in the Age of Discovery, it fails to provide an accurate account of many non-Western and precapitalist networks of interregional interaction. Anthropologists have already discarded virtually all of the content of world-system model; we should slough off its inherently flawed terminological shell as well. We sacrifice nothing, and, in fact, improve our understanding of the world around us.

The Distance-Parity and Trade-Diaspora Models

When we discard the assumptions of the world-system model and examine non-Western or precapitalist networks of interregional interaction, a completely different picture emerges: one that is messier, but truer to the fascinating range of interactional forms that we see in the historic and archaeological

record. Alternative models drawn from these sources more accurately describe and explain the organization of interregional exchange while allowing for a much higher degree of variation in the power relations between interacting polities. More importantly, they specify the variables that can help explain why this variation exists.

I have focused on distance-parity relationships and trade-diasporas as two complementary models in that they look at the same network from different perspectives. Both explicitly emphasize the importance of those parts of the network that do not make up the core, whether one calls them peripheries, local polities, or indigenous peoples. The models require us to consider these polities in their own right, rather than as forms of social organization that are defined by their (subordinate) relation to a core area.

The distance-parity model takes the top-down perspective of political economy by focusing on interaction or culture contact at the regional level of the polities themselves. The model draws on the economics of transportation to specify a gradient in power and exchange relations between the different parts of an interregional interaction network, so that one can see a distance-related decay in the power of the core states, leading to increasingly equal relations with increasingly distant peripheries.

The distance-parity model explicitly allows for variation in power relations between networks. This gives us the ability to make comparative analyses of interaction networks in different time periods or culture areas. Equally important, the model helps explain variation in core-periphery power relations in different parts of the same network.

Thus, for example, in fourth-millennium-B.C. Mesopotamia, a comparison of (a) the city of Uruk itself, (b) fortified, completely Mesopotamian colonies such as Habuba Kabira, and (c) small, distant outposts such as Hacinebi shows a notable degree of variation in the social and economic organization of this earliest colonial network as one moves outward, from the urbanized Uruk heartland to the distant regions with which it traded. In the south Mesopotamian alluvium, cities such as Uruk and Susa controlled their rural hinterlands, exacting taxes and sending out administrators to control the most basic activities such as planting, harvesting, and collecting crop surpluses (Wright et al. 1980; Wright et al. 1989).

In the areas of Syria closest to Mesopotamia proper, Uruk colonies such as Habuba Kabira (in the late Uruk period) and Tell Sheikh Hassan (in the middle Uruk period) were large fortified settlements that were powerful enough to use coercive economic influence over the sparsely populated local Syrian communities around them (Strommenger 1980; Sørensen 1986b).

In more distant regions, late and middle Uruk settlements such as Go-

din V in highland Iran (Weiss and Young 1975; Young 1986) and Hacinebi in southeast Turkey took the form of small outposts located inside the preexisting towns of local polities. We have no evidence to suggest that the outposts dominated local economies through asymmetric exchange or coercion. Instead, the small numbers and vulnerable position of the Mesopotamians at sites such as Hacinebi and Godin, meant that they could only survive by remaining on good terms with their more powerful indigenous neighbors.

The organization of these Uruk settlements and the ways they interacted with their local neighbors varied, depending on the distance from Mesopotamia, the size of the local population, and the degree of preexisting social complexity in the indigenous polities. The distance-parity model gives us a way to describe and explain spatial variation in power relations both within and between different networks of interregional interaction. But this is only part of the picture.

As a complement to the large-scale regional frame of analysis in the distance-parity model, Cohen's trade-diaspora model provides a conceptual vocabulary to describe the organization of interaction from the perspective of its participant groups: resident foreigner enclaves, their homelands, and their local host communities (Cohen 1969, 1971; Curtin 1971, 1975, 1984).

Drawn from non-Western sources, specifically the ethnography of West African complex societies, the trade-diaspora concept recognizes a range of variation in the power relations among these groups, without assuming that the foreigners dominate their hosts. This same variation exists in the organization of colonies, those implanted settlements that are one of the most common forms of trade-diaspora.

The most important advantage of these two models is their flexibility. The world-system model assumes the core-dominant, inherently unequal structure of the interaction network and the power relations among its various parts. It does not recognize, and cannot account for, the workings of those networks where so-called peripheries play active, equal, or even dominant roles in the organization of interaction. By contrast, the distance-parity and trade-diaspora models treat world-system types of core domination as just one possibility in the range of interregional power relationships.

Archaeological Applications: Present and Future

The distance-parity and trade-diaspora models make sense as theoretical constructs. To be truly useful, however, these models must be empirically

testable. The archaeological correlates of the world-system and distance-parity models allow us to do just that. When tested against the archaeological record of the earliest known colonial network, these criteria show that the organization of Mesopotamian-Anatolian interaction at Hacinebi most closely fits the expectations of the distance-parity model.

As general theoretical constructs, the distance-parity and trade-diaspora models should be applicable to other ethnohistoric and archaeological cases as well. Analyses of Inka rule (D'Altroy 1992), Aztec imperial organization (Hassig 1985; Smith 1986) and reconstructions of interaction between central Mexico and the Gulf Coast lowlands (Stark 1990) all show the explanatory power of interaction models based on "the tyranny of distance" (Bairoch 1988:11). These studies are particularly important in demonstrating that even militarily powerful expansionary states did not and could not extend their power uniformly over the social landscape.

In a similar vein, the complexities of colonization and trade within these networks become more comprehensible when analyzed within the framework of the trade-diaspora model. This model is particularly useful in examinations of foreign enclaves inside urbanized core areas. For example, Spence has shown that the organization of the "Oaxaca Barrio" at Teotihuacán can best be understood by considering the inhabitants to be a socially circumscribed trade-diaspora of merchants and craft specialists from Oaxaca, who maintained a social identity completely distinct from that of the central Mexican host community of Teotihuacán (Spence 1976). This example emphasizes the value of the trade-diaspora model as a way to link interregional interaction to problems of ethnicity in complex societies.

Kelly's (1997) archaeological study of interaction between seventeenth-century European traders and the kingdom of Hueda on the west African coast provides an excellent example of the interpretive insights that derive from viewing colonies as trade-diasporas in a framework where the technological and military advantages of the core are diminished by distance and factionalism among core powers.

Kelly's excavations at Savi, the capital of the Hueda polity in what is now Benin, show both the spatial segregation of the European trading enclave, and the degree to which the trade-diaspora's freedom of action was constrained by the power of local rulers to grant or revoke trading privileges, and by the latter's deliberate attempts to control the extent of European ideological influence.

The application of these alternative models for interregional interaction shifts the analytical focus of future research in several important ways. At the broadest level, instead of viewing groups of interacting polities as a single,

highly integrated system, we need to model them as loosely linked networks where economic, political, military, and ideological power do not flow easily, inevitably, or unidirectionally from cores to peripheries. Core processes may have little effect on outlying polities: connection does not imply causation.

We need to focus on heterogeneity in power relations at every level within the interaction network. Recognizing this heterogeneity requires that we examine not just cores, but peripheries as well. In doing so, we need to allow for agency in the latter areas, so that these local polities are not simply the passive or reactive victims of core expansion.

In examining the political economy of interaction, we can no longer focus exclusively on long-distance trade; instead we need to consider a range of economic phenomena such as local productive systems (crafts, agriculture, pastoralism, natural resource extraction), local exchange, specialization, and the strategies of finance that provide the economic underpinnings of local elites. In addition, we need to understand the organization of local elites in relation to their own polities as a prerequisite for any understanding of external relations.

The recognition that real variation exists within and between interregional interaction networks forces us to focus on the factors that explain this variation. The distance-parity and trade-diaspora models suggest that some of the main factors are rooted in geographic distance, transportation economics, technology, and the social complexity of each interacting polity. Certainly the combined effects of these different variables can be expected to vary depending on the specific culture histories of different polities or interaction networks. Most of all, applications of the distance-parity and trade-diaspora models require a concern with the archaeology of power.

Although many researchers have called for a focus on power relationships, analyses of this sort have been rare because it is so difficult to identify power and its transformations in the archaeological record (DeMarrais et al. 1996; Gailey and Patterson 1987; Miller and Tilley 1984; Schortman and Urban 1992; Santley and Alexander 1992). However, one strategy that shows great potential is a regional analysis of political economy that maps variation in nodes of power across the social landscape within and between the polities that form a given interaction network. This approach identifies the behavioral correlates of the exercise of power by documenting variation in patterns of production, exchange, and consumption of different goods or forms of value (such as labor).

In this perspective, nodes of power are those social sectors or areas within a polity where some forms of value circulate or accumulate, while others do not. In identifying these nodes it is especially useful to compare

the patterns of circulation for different goods or forms of value. Differential or asymmetric movements of labor, subsistence goods, utilitarian crafts, and luxury items within a regional system can provide some of the best evidence for the degree to which power may be equally or unequally distributed either within a polity or between polities at the interregional level.

To give a concrete example, at Hacinebi the distribution of administrative artifacts relative to the evidence of different economic activities served to clarify the ways that different forms of value were produced, circulated, and consumed. This patterning showed that there were two culturally and economically autonomous nodes of power in the mid-fourth-millennium settlement: the local Anatolian polity and the socially encapsulated Mesopotamian trading enclave. Identifying two separate nodes of power at Hacinebi and specifying directionality in the flows of economic value between them were essential elements in testing the world-system and distance-parity models.

Interregional interaction clearly played an important role in the evolution of complex societies, both in the Near East and in other parts of the world. We can best understand this phenomenon by developing new models that avoid the problematic aspects of the world-system construct while retaining its interregional scale of multipolity analysis. When we do so, it becomes clear that we have to allow for a mix of factors that affect the development of the individual polities that constitute the broader interaction network.

Although far from perfect, these initial formulations of the distance-parity and trade-diaspora models let us at least begin to specify some of the factors that structure variation and recurring patterns in broad-scale political and economic organization. Through this approach, we can arrive at a better and more realistic understanding of the development and spread of ancient complex societies in comparative context.

Bibliography

- Abu-Lughod, Janet. 1989. *Before European Hegemony: The World System AD 1250–1350*. New York: Oxford University Press.
- . 1990. "Restructuring the Premodern World System." *Review* 13(2): 273–286.
- Adams, Robert McC. 1974. "Anthropological Perspectives on Ancient Trade." *Current Anthropology* 15: 239–258.
- . 1978. "Strategies of Maximization, Stability, and Resilience in Mesopotamian Society, Settlement, and Agriculture." *Proceedings of the American Philosophical Society* 122: 329–335.
- . 1981. *Heartland of Cities*. Chicago: University of Chicago Press.
- Adams, William. 1984. "The First Colonial Empire: Egypt in Nubia, 3200–1200 B.C." *Comparative Studies in Society and History* 26: 36–71.
- Akkermans, Peter M. M. G. 1989. "Tradition and Social Change in Northern Mesopotamia During the Later Fifth and Fourth Millennium BC." Pp. 339–367 in Henrickson and Thuesen.
- Akkermans, Peter M. M. G., and K. Duistermaat. 1997. "Of Storage and Nomads: The Sealings from Late Neolithic Sabi Abyad, Syria." *Paléorient* 22: 17–32.
- Alden, John. 1982a. "Marketplace Exchange as Indirect Distribution: An Iranian Example." Pp. 83–101 in Ericson and Earle.
- . 1982b. "Trade and Politics in Proto-Elamite Iran." *Current Anthropology* 23: 613–640.
- Algaze, Guillermo. 1986a. "Habuba on the Tigris: Archaic Nineveh Reconsidered." *Journal of Near Eastern Studies* 45: 125–137.
- . 1986b. "Kurban Höyük and the Late Chalcolithic Period in the Northwest Mesopotamian Periphery." Pp. 274–315 in Röhlig and Finkbeiner.
- . 1989a. "A New Frontier: First Results of the Tigris-Euphrates Archaeological Reconnaissance Project, 1988." *Journal of Near Eastern Studies* 48: 241–281.
- . 1989b. "The Uruk Expansion: Cross Cultural Exchange in Early Mesopotamian Civilization." *Current Anthropology* 30: 571–608.
- . 1993a. "Expansionary Dynamics of Some Early Pristine States." *American Anthropologist* 95: 304–333.
- . 1993b. *The Uruk World System*. Chicago: University of Chicago Press.
- . 1998. "The Prehistory of Imperialism: The Case of Uruk Period Mesopotamia." Paper presented at the School of American Research Advanced Seminar, Mesopotamia in the Era of State Formation, March.

- , ed. 1990. *Town and Country in Southeastern Anatolia*, Vol. 2, *The Stratigraphic Sequence at Kurban Höyük*. Chicago: University of Chicago, Oriental Institute Publication no. 110.
- Algaze, Guillermo, Ray Breuninger, and James Knudstad. 1994. "The Tigris-Euphrates Archaeological Reconnaissance Project: Final Report of the Birecik and Carchemish Dam Survey Areas." *Anatolica* 20: 1–96.
- Algaze, Guillermo, Ray Breuninger, Chris Lightfoot, and Michael Rosenberg. 1991. "The Tigris-Euphrates Archaeological Reconnaissance Project: A Preliminary Report of the 1989–1990 Seasons." *Anatolica* 17: 175–240.
- Allen, Mitchell. 1992. "The Mechanisms of Underdevelopment: An Ancient Mesopotamian Example." *Review* 15: 453–476.
- Areshian, Gregory. 1990. "Further Thoughts on the Uruk Expansion." *Current Anthropology* 31: 396–399.
- Arnold, Dean, Hector Neff, and Ronald Bishop. 1991. "Compositional Analysis and 'Sources' of Pottery: An Ethnoarchaeological Approach." *American Anthropologist* 93: 70–90.
- Austen, Ralph. 1978. "African Commerce Without Europeans: The Development Impact of International Trade in the Pre-Modern Era." *Kenya Historical Review* 6: 1–21.
- Azarya, Victor. 1980. "Traders and the Center in Massina, Kong, and Samori's State." *International Journal of African Historical Studies* 13: 420–456.
- Badler, Virginia, Patrick McGovern, and Donald Glusker. 1996. "Chemical Evidence for a Wine Residue from Warka (Uruk) Inside a Late Uruk Spouted Jar." *Baghdader Mitteilungen* 27: 39–43.
- Badler, Virginia, Patrick McGovern, and Rudolph Michel. 1990. "Drink and be Merry! Infrared Spectroscopy and Ancient Near Eastern Wine." Pp. 25–36 in *Organic Contents of Ancient Vessels: Materials Analysis and Archaeological Investigation*, Vol. 7, ed. W. Biers and P. McGovern. Philadelphia: MASCA Research Papers in Science and Archaeology.
- Bairoch, Paul. 1988. *Cities and Economic Development*. Chicago: University of Chicago Press.
- Balfet, Hélène. 1965. "Ethnographical Observations in North Africa and Archaeological Interpretation: The Pottery of the Maghreb." Pp. 161–177 in *Ceramics and Man*, ed. F. Matson. New York: Viking Fund Publications in Anthropology no. 41.
- Bartel, Brad. 1989. "Acculturation and Ethnicity in Roman Moesia Superior." Pp. 173–185 in *Champion*.
- Bean, Susan. 1989. "Gandhi and Khadi, the Fabric of Indian Independence." Pp. 355–376 in *Cloth and Human Experience*, ed. A. Weiner and J. Schneider. Washington, D.C.: Smithsonian Institution Press.
- Becker, A. 1993. *Uruk, Kleinfunde I*. Mainz am Rhein: Philipp von Zabern.
- Behm-Blancke, Manfred. 1981. "Hasek Höyük. Vorläufiger Bericht über die Ausgrabungen der Jahre 1978–1980." *Istanbuler Mitteilungen* 31: 5–82.
- . 1983. "Hasek Höyük. Die Grabungen 1981." *Türk Arkeoloji Dergisi* 2612: 65–78.
- . 1984. "Die Ausgrabungen auf dem Hasek Höyük im Jahre 1982." Pp. 163–168, 419–423 in *V. Kazi Sonuçları Toplantısı*. Ankara: Republic of Turkey, Ministry of Culture, General Directorate of Monuments and Museums.
- . 1986. "Die Ausgrabungen auf dem Hasek Höyük im Jahre 1985." Pp. 139–147

- in *VIII Kazi Sonuçları Toplantısı*. Republic of Turkey, Ministry of Culture, General Directorate of Monuments and Museums.
- . 1989. "Mosaikstifte aus der Uruk-Zeit am Oberen Euphrat." *Istanbuler Mitteilungen* 39: 73–83.
- . 1992. "Hasek Höyük: Eine Uruk Station im Grenzland zu Anatolien." *Nürnberg Blätter zur Archäologie* 8: 82–94.
- Benco, Nancy. 1992. "Manufacture and Use of Clay Sickles from the Uruk Mound, Abu Salabikh, Iraq." *Paléorient* 18: 119–133.
- Berman, Judith. 1994. "The Ceramic Evidence for Sociopolitical Organization in 'Ubad Southwest Iran." Pp. 23–33 in Stein and Rothman.
- Bertalanffy, Ludwig von. 1969. *General System Theory*. New York: Braziller.
- Bigelow, Lauren. 1997. *Changing Patterns of Society and Economy: Zooarchaeological Investigations at Hacinebi Tepe, Turkey*. Anthropology Department, Northwestern University, photocopy.
- . 1998. "Faunal Perspectives on Status, Economic Organization and Ethnicity at 4th Millennium B.C. Hacinebi." Paper presented at the Society for American Archaeology Annual Meeting, Seattle, March 26.
- Binford, Lewis. 1965. "Archaeological Systematics and the Study of Culture Process." *American Antiquity* 31: 203–210.
- Bishop, Ronald, Robert Rands, and George Holley. 1982. "Ceramic Compositional Analysis in Archaeological Perspective." *Advances in Archaeological Method and Theory* 5: 275–330.
- Blackman, M. James. 1984. "Provenance Studies of Middle Eastern Obsidian from Sites in Highland Iran." Pp. 19–50 in *Archaeological Chemistry*, ed. J. Lambert. ACS Advances in Chemistry Series no. 205, vol. 3: American Chemical Society.
- . 1998. "Chemical Characterization of Local Anatolian and Uruk Sealing Clays from Hacinebi." Presented at the Society for American Archaeology Annual Meeting, Seattle, March 26.
- Blackman, M. James, Gil J. Stein, and P. Vandiver. 1993. "The Standardization Hypothesis and Ceramic Mass Production: Compositional, Technological, and Metric Indices of Craft Specialization at Tell Leilan (Syria)." *American Antiquity* 58: 60–80.
- Blanton, Richard, and Gary Feinman. 1984. "The Mesoamerican World System." *American Anthropologist* 86: 673–682.
- Blanton, Richard, Stephen Kowalewski, and Gary Feinman. 1992. "The Mesoamerican World System." *Review* 15(3): 419–426.
- Blanton, Richard, Stephen Kowalewski, Gary Feinman, and Jill Appel. 1981. *Ancient Mesoamerica: A Comparison of Change in Three Regions*. Cambridge: Cambridge University Press.
- Boardman, John. 1980. *The Greeks Overseas*. London: Thames and Hudson.
- Boden, Kenneth. 1996. "The Phase A Ceramics from Hacinebi, Turkey. A Technological Exploration of Style." Master's thesis, Anthropology Department, University of Arizona.
- . 1997. "Technological Strategies in Fourth Millennium BC Ceramic Production at Hacinebi." Pp. 132–135 in Stein et al.
- Boehmer, Rainer. 1991. "Uruk 1980–1990: A Progress Report." *Antiquity* 65: 465–478.
- Boese, Johannes. 1987. "Excavations at Tell Sheikh Hassan, Preliminary Report on

- the Year 1987 Campaign in the Euphrates Valley." *Annales Archéologiques Arabes Syriennes* 36/37: 67–100.
- . 1995. *Ausgrabungen in Tell Sheikh Hassan I. Vorläufige Berichte über die Ausgrabungskampagnen 1984–1990 und 1992–1994*. Saarbrücken: Saarbrücker Druckerei und Verlag.
- Bökönyi, Sandor. 1988. "Late Chalcolithic and Early Bronze Age I Animal Remains from Arslantepe (Malatya), Turkey: A Preliminary Report." *Origini* 12 (2): 581–598.
- Braidwood, Robert, and Linda Braidwood. 1960. *Excavations in the Plain of Antioch*. Chicago: University of Chicago Oriental Institute.
- Brandes, M. 1979. *Siegelabrollungen aus den Archaischen Bauschichten in Uruk-Warka*. Freiburger Altorientalischen Studien 3. Weisbaden: Franz Steiner.
- Brandt, Roelof. 1978. "The Other Chalcolithic Finds." Pp. 61–63 in van Loon.
- Braudel, Fernand. 1972. *The Mediterranean and the Mediterranean World in the Age of Philip II*, Vol. 1. New York: Harper and Row.
- Breniquet, Catherine. 1986. "Nouvelle Hypothèse sur la Disparition de la Culture de Halaf." Pp. 231–241 in *Préhistoire de la Mésopotamie*, ed. J. L. Huot. Paris: Editions de CNRS.
- Brinkman, John. 1984. "Settlement Surveys and Documentary Evidence: Regional Variation and Secular Trend in Mesopotamian Demography." *Journal of Near Eastern Studies* 43: 169–180.
- Brown, James, Richard Kerber, and Howard Winters. 1990. "Trade and the Evolution of Exchange Relations at the Beginning of the Mississippian Period." Pp. 251–280 in *The Mississippian Emergence*, ed. B. D. Smith. Washington, D.C.: Smithsonian Institution Press.
- Brumfiel, Elizabeth. 1992. "Distinguished Lecture in Archaeology: Breaking and Entering the Ecosystem—Gender, Class, and Faction Steal the Show." *American Anthropologist* 94: 551–567.
- Brumfiel, Elizabeth, and Timothy Earle, eds. 1987. *Specialization, Exchange, and Complex Societies*. Cambridge: Cambridge University Press.
- Brumfiel, Elizabeth, and John Fox, eds. 1994. *Factional Competition and Political Development in the New World*. Cambridge: Cambridge University Press.
- Caldwell, Joseph. 1964. "Interaction Spheres in Prehistory." Pp. 133–143 in *Hope-wellian Studies*, ed. J. Caldwell and R. Hall. Springfield: Illinois State Museum Scientific Papers no. 12.
- Carneiro, Robert. 1970. "A Theory of the Origin of the State." *Science* 169: 733–738.
- Champion, Tim, ed. 1989. *Centre and Periphery*. London: Unwin Hyman.
- Chase-Dunn, Christopher. 1992. "The Comparative Study of World-Systems." *Review* 15: 313–333.
- , and Thomas Hall. 1993. "Comparing World Systems: Concepts and Working Hypotheses." *Social Forces* 71: 851–886.
- , eds. 1991. *Core/Periphery Relations in Precapitalist Worlds*. Boulder: Westview.
- Chesney, F. R. 1850. *The Expedition for the Survey of the Rivers Euphrates and Tigris*. London: Longman, Brown, Green, and Longman.
- Cipolla, Carlo. 1967. *Money, Prices, and Civilization in the Mediterranean World: Fifth to Seventeenth Century*. New York: Gordian Press.
- Clark, John. 1986. "From Mountains to Molehills: A Critical review of Teotihuacán's

- Obsidian Industry." Pp. 23–74 in *Economic Aspects of Prehispanic Highland Mexico*, ed. B. Isaac. Greenwich, Conn.: JAI Press.
- Clark, John, and Michael Blake. 1994. "The Power of Prestige: Competitive Generosity and the Emergence of Rank Societies in Lowland Mesoamerica." Pp. 17–30 in Brumfiel and Fox.
- Clark, John, and William Parry. 1990. "Craft Specialization and Cultural Complexity." *Research in Economic Anthropology* 12: 289–346.
- Clifford, James. 1994. "Diasporas." *Cultural Anthropology* 9: 302–338.
- Cohen, Abner. 1969. *Custom and Politics in Urban Africa: A Study of Hausa Migrants in Yoruba Towns*. Berkeley: University of California Press.
- . 1971. "Cultural Strategies in the Organization of Trading Diasporas." Pp. 266–281 in Meillassoux.
- Cohen, R., and E. Service, eds. 1978. *Origins of the State*. Philadelphia: ISHI.
- Collins, Randall. 1992. "The Geopolitical and Economic World-Systems of Kinship-Based and Agrarian-Coercive Societies." *Review* 15: 373–388.
- Connan, Jacques, and Odile Deschesne. 1991. "Le Bitume dans l'Antiquité." *La Recherche* 22: 152–159.
- . 1996. *Bitumen at Susa*. Paris: Musée du Louvre Département des Antiquités Orientales.
- Cook, Noble David. 1981. *Demographic Collapse: Indian Peru, 1520–1620*. New York: Cambridge University Press.
- Costin, Cathy. 1993. "Textiles, Women, and Political Economy in Late Prehispanic Peru." *Research in Economic Anthropology* 14: 29–59.
- Cowgill, George. 1993. Comments on Andrew Sluyter. "Long Distance Staple Transport in Western Mesoamerica: Insights Through Quantitative Modeling." *Ancient Mesoamerica* 4: 201–203.
- Crabtree, Pam. 1990. "Zooarchaeology and Complex Societies: Some Uses of Faunal Analysis for the Study of Trade, Social Status, and Ethnicity." *Archaeological Method and Theory* 2: 155–205.
- Crawford, Harriet E. W. 1973. "Mesopotamia's Invisible Exports in the Third Millennium." *World Archaeology* 5: 232–241.
- Creamer, Winifred, and Jonathan Haas. 1985. "Tribe vs. Chiefdom in Lower Central America." *American Antiquity* 50: 738–754.
- Crosby, Alfred. 1986. *Ecological Imperialism. The Biological Expansion of Europe 900–1900*. Cambridge: Cambridge University Press.
- Curtin, Philip. 1971. "Pre-Colonial Trading Networks and Traders: The Diakhanké." Pp. 228–239 in Meillassoux.
- . 1975. *Economic Change in Precolonial Africa. Senegambia in the Era of the Slave Trade*. Madison: University of Wisconsin Press.
- . 1984. *Cross-Cultural Trade in World History*. Cambridge: Cambridge University Press.
- Cusick, James, ed. 1998. *Studies in Culture Contact: Interaction, Culture Change, and Archaeology*. Carbondale: Center for Archaeological Investigations, Occasional Paper 25. Southern Illinois University Press.
- D'Altroy, Terence. 1992. *Provincial Power in the Inka Empire*. Washington, D.C.: Smithsonian Institution Press.
- . 1994. "Public and Private Economy in the Inka Empire." Pp. 169–221 in *The*

- Economic Anthropology of the State*, ed. E. Brumfiel. Lanham, Md.: University Press of America.
- D'Altroy, Terence N., and Timothy K. Earle. 1985. "Staple Finance, Wealth Finance, and Storage in the Inka Political Economy." *Current Anthropology* 26: 187–206.
- DeMarrais, Elizabeth, L. J. Castillo, and Timothy Earle. 1996. "Ideology, Materialization, and Power Strategies." *Current Anthropology* 37: 15–31.
- Descoedres, Jean-Paul, ed. 1990. *Greek Colonists and Native Populations*. Oxford: Clarendon.
- Dietler, Michael. 1998. "Consumption, Agency, and Cultural Entanglement: Theoretical Implications of a Mediterranean Colonial Encounter." Pp. 288–315 in Cusick.
- Dilleman, Louis. 1962. *Haute Mesopotamie Orientale et Pays Adjacents*. Paris: Librairie Orientaliste Paul Geuthner.
- Di Peso, Charles. 1974. *Casas Grandes: A Fallen Trading Center of the Gran Chichimeca*. Flagstaff, Ariz.: Northland.
- Dittman, René. 1986. "Seals, Sealings, and Tablets. Remarks on the Changing Pattern of Administrative Control From the Late Uruk to the Proto-Elamite Period at Susa." Pp. 332–366 in Röhlig and Finkbeiner.
- Dixon, J. E., J. R. Cann, and Colin Renfrew. 1972. "Obsidian and the Origins of Trade." Pp. 80–88 in Lamberg-Karlovsky.
- Dobyns, Henry. 1983. *Their Number Became Thinned: Native Population Dynamics in Eastern North America*. Knoxville: University of Tennessee Press.
- Douglas, Mary, and Baron Isherwood. 1979. *The World of Goods: Towards an Anthropology of Consumption*. New York: W. W. Norton.
- Drennan, Robert. 1984. "Long-Distance Transport Costs in Pre-Hispanic Mesoamerica." *American Anthropologist* 86: 105–114.
- Drennan, Robert, Philip T. Fitzgibbons, and Heinz Dehn. 1990. "Imports and Exports in Classic Mesoamerican Political Economy: The Tehuacan Valley and the Teotihuacán Obsidian Industry." *Research in Economic Anthropology* 12: 177–199.
- Drennan, Robert, and C. Uribe, eds. 1987. *Chiefdoms in the Americas*. Lanham, Md.: University Press of America.
- Dyson, Stephen. 1971. "Native Revolts in the Roman Empire." *Historia* 20: 239–274.
- , ed. 1985. *Comparative Studies in the Archaeology of Colonialism*. Oxford: BAR International Series 233.
- Earle, Timothy. 1982. "The Ecology and Politics of Primitive Valuables." Pp. 65–83 in *Culture and Ecology: Eclectic Perspectives*, J. Kennedy and R. Edgerton. Washington, D.C.: American Anthropological Association Special Publication 15.
- , ed. 1991. *Chiefdoms: Power, Economy, and Ideology*. Cambridge: Cambridge University Press.
- Earle, Timothy, and Jonathon Ericson, eds. 1977. *Exchange Systems in Prehistory*. New York: Academic Press.
- Eddy, Samuel. 1961. *The King is Dead: Studies in the Near Eastern Resistance to Hellenism 334–31 BC*. Lincoln: University of Nebraska Press.
- Edens, Christopher. 1992. "The Dynamics of Trade in the Ancient Mesopotamian 'World System.'" *American Anthropologist* 94: 118–139.
- , 1996. "Hacinebi Chipped Stone—1995." Pp. 100–104 in Stein et al. 1996b.
- , 1997. "Chipped Stone." Pp. 124–127 in Stein et al.
- , 1998. "Hacinebi Chipped Stone, 1997." Pp. 155–160 in Stein et al.

- Edens, Julie Pearce. 1997. "Hacinebi Ceramic Analysis, 1996." Pp. 127–132 in Stein et al.
- Ekholm, Kajsa. 1977. "External Exchange and the Transformation of Central African Social Systems." Pp. 115–136 in *The Evolution of Social Systems*, ed. J. Friedman and M. Rowlands. London: Duckworth.
- Ekholm, Kajsa, and Jonathan Friedman. 1982. "'Capital' Imperialism and Exploitation in Ancient World Systems." *Review* 4: 87–109.
- Emberling, Geoffrey. 1997. "Ethnicity in Complex Societies: Archaeological Perspectives." *Journal of Archaeological Research* 5: 295–344.
- Emmanuel, Arghiri. 1972. *Unequal Exchange. A Study in the Imperialism of Trade*. New York: Monthly Review Press.
- Engels, Frederick. 1972 [1895]. *The Origin of the Family, Private Property and the State*. Trans. Alec West, Eleanor Leacock, ed. Reprint, New York: New World Paperbacks.
- Ericson, Jonathon, and Timothy Earle, eds. 1982. *Contexts for Prehistoric Exchange*. New York: Academic Press.
- Esin, Ufuk. 1982a. "Die Kulturellen Beziehungen Zwischen Östanatolien und Mesopotamien sowie Syrien anhand einiger Grabungs und Oberflächensfunde aus dem Oberen Euphrattal im 4 Jt. v. Chr." Pp. 13–21 in *Mesopotamien und Seine Nachbarn*, Vol 1, ed. H. Nissen and J. Renger. Berlin: XXV Rencontre Assyriologique Internationale.
- , 1982b. "Tepecik Excavations, 1974." Pp. 95–125 in *Keban Project 1974–75 Activities*. Ankara: Middle East Technical University Keban Project Publications Series 1, no. 7.
- , 1990. "Değirmentepe (Malatya) Kalkolitik Obeyd Evresi Damga Mühür ve Mühür Baskıları." Pp. 47–56, plates 33–41 in *X. Türk Tarih Kongresi*. Ankara: Türk Tarih Kurumu Basimevi.
- Feinman, Gary, and Linda Nicholas. 1992. "Pre-Hispanic Inter-regional Interaction in Southern Mexico: The Valley of Oaxaca and the Ejutla Valley." Pp. 75–116 in Schortman and Urban 1992.
- Feroli, Piera, and Enrica Fiandra. 1983. "Clay sealings From Arslantepe VI A: Administration and Bureaucracy." *Origini* 12: 455–509.
- Feroli, Piera, Enrica Fiandra, Gian Giacomo Fissore, and Marcella Frangipane, eds. 1994. *Archives Before Writing*. Torino: Scriptorium.
- Fielden, Kate. 1981. "A Late Uruk Pottery Group From Tell Brak 1978." *Iraq* 43: 157–166.
- Finet, André. 1977. "L'Apport du Tell Kannas a l'Histoire Proche-Orientale, de la Fin du 4e Millénaire à la Moitié du 2e." Pp. 107–115 in *Le Moyen Euphrate. Zone de Contact et d'Echanges*, ed. J. C. Margueron. Leiden: E. J. Brill.
- Finkbeiner, Uwe. 1987. "Uruk-Warka, 1983–1984." *Archiv für Orientforschung* 34: 140–144.
- , 1991. *Uruk: Kampagne 35–37, 1982–1984. Die Archäologische Oberflächenuntersuchung*. Mainz am Rhein: Philipp von Zabern.
- Finley, Moses. 1985. *The Ancient Economy*. 2nd edition. Berkeley: University of California Press.
- Fitzhugh, William. 1985a. "Early Contacts North of Newfoundland Before AD 1600: A Review." Pp. 23–43 in Fitzhugh 1985b.

- , ed. 1985b. *Cultures in Contact*. Washington, D.C.: Smithsonian Institution Press.
- Flannery, Kent. 1968. "The Olmec and the Valley of Oaxaca: A Model for Inter-Regional Interaction in Formative Times." Pp. 79–110 in *Dumbarton Oaks Conference on the Olmec*, ed. E. Benson. Washington, D.C.: Dumbarton Oaks.
- . 1972. "The Cultural Evolution of Civilizations." *Annual Review of Ecology and Systematics* 3: 399–426.
- . 1986a. "A Visit to the Master." Pp. 511–519 in Flannery 1986b.
- . 1995. "Prehistoric Social Evolution." Pp. 3–26 in *Research Frontiers in Anthropology*. Needham Heights, Mass.: Simon and Schuster Education Group.
- , ed. 1986b. *Guila Naquitz. Archaic Foraging and Early Agriculture in Oaxaca, Mexico*. Orlando, Fla.: Academic Press.
- Forbes, Robert. 1955. *Studies in Ancient Technology*, Vol. 1. Leiden: E. J. Brill.
- Ford, Richard. 1972. "Barter, Gift, or Violence: An Analysis of Tewa Intertribal Exchange." Pp. 21–45 in Wilmsen.
- Foster, Benjamin. 1977. "Commercial Activity in Sargonic Mesopotamia." *Iraq* 39: 31–43.
- Frangipane, Marcella. 1993. "Local Components in the Development of Centralized Societies in Syro-Anatolian Regions." Pp. 133–161 in Frangipane et al.
- . 1994. "The Record Function of Clay Sealings in Early Administrative Systems as Seen From Arslantepe, Malatya." Pp. 125–136 in Ferioli et al.
- . 1997a. "A 4th Millennium Temple/Palace Complex at Arslantepe-Malatya. North-South Relations and the Formation of Early States in the Northern regions of Greater Mesopotamia." *Paléorient* 23: 45–73.
- . 1997b. "Arslantepe-Malatya. External Factors and Local Components in the Development of an Early State Society." Pp. 43–58 in *Emergence and Change in Early Urban Societies*, ed. L. Manzanilla. New York: Plenum.
- Frangipane, Marcella, Harald Hauptmann, Mario Liverani, Paolo Matthiae, and Ma-chteld Mellink, eds. 1993. *Between the Rivers and Over the Mountains*. Rome: Università di Roma "La Sapienza."
- Frangipane, Marcella, and Alba Palmieri. 1987. "Urbanization in Perimesopotamian Areas: the Case of Eastern Anatolia." Pp. 295–318 in *Studies in the Neolithic and Urban Revolutions*, ed. L. Manzanilla. Oxford: BAR International Series 349.
- . 1989. "Aspects of Centralization in the Late Uruk Period in Mesopotamian Periphery." *Origini* 14: 539–560.
- Frank, André Gunder. 1966. "The Development of Underdevelopment." *Monthly Review* 18: 17–31.
- . 1967. *Capitalism and Underdevelopment in Latin America: Historical Studies of Chile and Brasil*. New York: Monthly Review Press.
- Frank, André Gunder, and Barry K. Gills. 1993a. "Bronze Age World System Cycles." *Current Anthropology* 34: 383–429.
- . 1993b. *The World System: Five Hundred Years or Five Thousand?* London: Routledge.
- Frankfort, Henri. 1977. *The Art and Architecture of the Ancient Orient*. London: Penguin Books.
- Fried, Morton. 1967. *The Evolution of Political Society*. New York: Random House.
- Gailey, Christine, and Thomas Patterson, eds. 1987. *Power Relations and State Formation*. Washington, D.C.: American Anthropological Association.

- Gates, Marie-Henriette. 1988. "Dialogues Between Ancient Near Eastern Texts and the Archaeological Record: Test Cases from Bronze Age Syria." *Bulletin of the American Schools of Oriental Research* 270: 63–91.
- Gibson, McGuire, and Robert Biggs, eds. 1977. *Seals and Sealings in the Ancient Near East*. Malibu, Calif.: Undena.
- Giddens, Anthony. 1984. *The Constitution of Society: Outline of the Theory of Structuration*. Berkeley: University of California Press.
- Goldstein, Paul. 1993. "Tiwanaku Temples and State Expansion: A Tiwanaku Sunken Court Temple in Moquegua, Peru." *Latin American Antiquity* 4: 22–47.
- Goody, Jack. 1971. *Technology, Tradition, and the State in Africa*. Cambridge: Cambridge University Press.
- Graham, A. J. 1983. *Colony and Mother City in Ancient Greece*. Chicago: Ares.
- Grauer, Anne. 1994. Appendix 2. "Paleopathological Analysis of Four Late Chalcolithic Burials from Hacinebi Tepe." *Anatolica* 20: 173–176.
- Great Britain. 1916. *A Handbook of Mesopotamia*. Admiralty War Staff Intelligence Division.
- Hall, Thomas, and Christopher Chase-Dunn. 1993. "The World-Systems Perspective and Archaeology: Forward into the Past." *Journal of Archaeological Research* 1: 121–143.
- Hallo, William. 1964. "The Road to Emar." *Journal of Cuneiform Studies* 18: 57–96.
- Hanbury Tenison, J. 1983. "The 1982 Flaked Stone Assemblage at Jebel Aruda, Syria." *Akkadica* 33: 27–33.
- Hannerz, Ulf. 1987. "The World in Creolization." *Africa* 57: 546–559.
- Harper, Prudence, Joan Aruz, and Françoise Tallon, eds. 1992. *The Royal City of Susa, Ancient Near Eastern Treasures in the Louvre*. New York: Metropolitan Museum of Art.
- Haselgrove, Colin. 1987. "Culture Process on the Periphery: Belgic Gaul and Rome During the Late Republic and Early Empire." Pp. 104–124 in Rowlands, Larsen, and Kristiansen.
- Hassig, Ross. 1985. *Trade, Tribute, and Transportation*. Norman: University of Oklahoma Press.
- Hauptmann, Harald. 1982. "Die Grabungen auf dem Norşuntepe, 1974." Pp. 41–70 in *Keban Project 1974–1975 Activities*. Ankara: Middle East Technical University Keban Project Publications Series 1, no. 7.
- Headrick, Daniel. 1981. *The Tools of Empire. Technology and European Imperialism in the Nineteenth Century*. New York: Oxford University Press.
- Hedeager, Lotte. 1987. "Empire, Frontier, and the Barbarian Hinterland: Rome and Northern Europe from AD 1–400." Pp. 125–140 in Rowlands, Larsen, and Kristiansen.
- Helms, Mary. 1979. *Ancient Panama: Chiefs in Search of Power*. Austin: University of Texas Press.
- . 1988. *Ulysses' Sail: An Ethnographic Odyssey of Power, Knowledge, and Geographical Distance*. Princeton: Princeton University Press.
- Helwing, Barbara. 1996. *Hasek Höyük: Die Spätkalkolithische Keramik*. Heidelberg: Ph.D. diss., Heidelberg University.
- Henrickson, Elizabeth. 1994. "The Outer Limits: Settlement and Economic Strategies in the Central Zagros During the Uruk Era." Pp. 85–102 in Stein and Rothman.

- Henrickson, Elizabeth, and Ingolf Thuesen, eds. 1989. *Upon This Foundation—The Ubaid Reconsidered*. Copenhagen: Carsten Niebuhr Institute Publication no. 10.
- Herodotus. 1973. *The Histories*. Aubrey de Sélincourt, trans. Harmondsworth, U.K.: Penguin Books.
- Herrmann, Georgina. 1968. "Lapis Lazuli: the Early Phases of its Trade." *Iraq* 30: 21–57.
- Hodder, Ian. 1986. *Reading the Past*. Cambridge: Cambridge University Press.
- Hole, Frank. 1983. "Symbols of Religion and Social Organization at Susa." Pp. 315–333 in Young, Smith, and Mortensen.
- . 1989. "A Two-Part, Two-Stage Model of Domestication." Pp. 97–104 in *The Walking Larder: Patterns of Domestication, Pastoralism, and Predation*, ed. J. Clutton-Brock. London: Unwin Hyman.
- Hopkins, Clark. 1979. *The Discovery of Dura Europos*. New Haven: Yale University Press.
- Idrisi, al. 1840. *Géographie d'Edrisi*. P. Amédée Jaubert, trans. Paris: Imprimerie Nationale.
- Jankowska, N. B. 1969. "Some Problems of the Economy of the Assyrian Empire." Pp. 253–276 in *Ancient Mesopotamia. Socio-Economic History*. Moscow: Nauka.
- Johnson, Gregory. 1973. *Local Exchange and Early State Development in Southwestern Iran*. Ann Arbor: University of Michigan Museum of Anthropology, Anthropological Paper no. 51.
- . 1977. "Aspects of Regional Analysis in Archaeology." *Annual Review of Anthropology* 6: 479–508.
- . 1978. "Information Sources and the Development of Decision-Making Organizations." Pp. 87–112 in *Social Archaeology: Beyond Subsistence and Dating*, ed. C. Redman. New York: Academic Press.
- . 1982. "Organizational Structure and Scalar Stress." Pp. 389–421 in *Theory and Explanation in Archaeology*, ed. C. Renfrew, M. Rowlands, and B. Seagraves. New York: Academic Press.
- . 1987. "The Changing Organization of Uruk Administration on the Susiana Plain." Pp. 107–139 in *The Archaeology of Western Iran*, ed. F. Hole. Washington, D.C.: Smithsonian Institution Press.
- . 1988–89. "Late Uruk in Greater Mesopotamia: Expansion or Collapse?" *Origini* 14: 595–613.
- Joyce, Arthur. 1993. "Inter-regional Interaction and Social Development on the Oaxaca Coast." *Ancient Mesoamerica* 4: 67–84.
- Joyce, Rosemary. 1992. "Classic Maya Images of Gender and Labor." Pp. 63–70 in *Exploring Gender Through Archaeology: Selected Papers from the Boone Conference*, ed. C. Claassen. Madison, Wis.: Prehistory Press, Monographs in World Prehistory no. 11.
- Kalsbeek, J. 1980. "La Céramique de Serie du Djebel Aruda (à l'Epoque d'Uruk)." *Akkadica* 20: 1–11.
- Keesing, Roger. 1994. "Colonial and Counter-colonial Discourse in Melanesia." *Critique of Anthropology* 14: 41–58.
- Keith, Kathryn. 1997. "Spindle Whorls and Textile Production at Late Chalcolithic Hacinebi." Pp. 136–139 in Stein et al.
- Kelley, Klara. 1976. "Dendritic Central-Place Systems and the Regional Organization

- of Navajo Trading Posts." Pp. 219–254 in *Regional Analysis. Volume I: Economic Systems*, ed. Carol Smith. New York: Academic Press.
- Kelly, Kenneth. 1997. "The Archaeology of African-European Interaction: Investigating the Social Roles of Trade, Traders, and the Use of Space in the Seventeenth and Eighteenth Century Hueda Kingdom." *World Archaeology* 28: 351–369.
- Kessell, John L. 1979. *Kiva, Cross, and Crown: The Pecos Indians and New Mexico 1540–1840*. Washington, D.C.: Department of the Interior, National Parks Service.
- Kipp, Rita, and Edward Schortman. 1989. "The Political Impact of Trade in Chiefdoms." *American Anthropologist* 91: 370–385.
- Kohl, Philip. 1975. "Carved Chlorite Vessels: A Trade in Finished Commodities in the Mid-Third Millennium." *Expedition* 18: 18–31.
- . 1978. "The Balance of Trade in Southwest Asia in the Mid-Third Millennium BC." *Current Anthropology* 19: 463–492.
- . 1987a. "The Ancient Economy, Transferable Technologies and the Bronze Age World System: A View from the Northwestern Frontier of the Ancient Middle East." In Rowlands, Larsen, and Kristiansen.
- . 1987b. "The Use and Abuse of World Systems Theory: The Case of the Pristine West Asian State." *Advances in Archaeological Method and Theory* 11: 1–35.
- . 1989. "The Use and Abuse of World Systems Theory: The Case of the Pristine West Asian State." Pp. 218–240 in *Archaeological Thought in America*, ed. C. C. Lamberg-Karlovsky. Cambridge: Cambridge University Press.
- Kohlmeyer, Kay. 1996. "Houses in Habuba Kabira-South. Spatial Organisation and Planning of Late Uruk Residential Architecture." Pp. 89–103 in *Houses and Households in Ancient Mesopotamia*, ed. K. Veenhof. Leiden: Nederlands Historisch-Archaeologisch Instituut te Istanbul.
- Koşay, Hamit Zubeyr. 1976. *Keban Project Pulur Excavations 1968–1970*. Ankara: Middle East Technical University Keban Project Publications 3(1).
- Kramer, Carol. 1977. "Pots and Peoples." Pp. 91–112 in Young and Levine.
- Kristiansen, Kristian. 1991. "Chiefdoms, States, and Systems of Social Evolution." Pp. 16–43 in Earle.
- Lamberg-Karlovsky, C. C., ed. 1972. *Old World Archaeology: Foundations of Civilization*. San Francisco: W. H. Freeman.
- Lane, Frederic. 1966. *Venice and History. The Collected Papers of Frederic Lane*. Baltimore: The Johns Hopkins Press.
- . 1976. "Economic Growth in Wallerstein's Social Systems: A Review Article." *Comparative Studies in Society and History* 18: 517–532.
- Larsen, Mogens T. 1976. *The Old Assyrian City State and Its Colonies*. Copenhagen: Akademisk Forlag.
- . 1987. "Commercial Networks in the Ancient Near East." Pp. 47–56 in Rowlands, Larsen, and Kristiansen.
- , ed. 1979. *Power and Propaganda: A Symposium on Ancient Empires*. Copenhagen: Akademisk Forlag.
- Latimore, Owen. 1962. *Studies in Frontier History*. London: Oxford University Press.
- Le Breton, Louis. 1957. "The Early Periods at Susa, Mesopotamian Relations." *Iraq* 79–124.
- Lechtman, Heather. 1977. "Style in Technology—Some Early Thoughts." Pp. 3–20 in

- Material Culture Styles, Organization, and Dynamics of Technology: 1975 Proceedings of the American Ethnological Society*, ed. H. Lechtman and R. S. Merrill. St. Paul, Minn.: West Publishing.
- Lenin, Vladimir Ilyich. 1976 [1932]. *The State and Revolution*. Beijing: Foreign Languages Press.
- Levine, Louis D., and T. Cuyler Young Jr., eds. 1977. *Mountains and Lowlands: Essays in the Archaeology of Greater Mesopotamia*. Malibu, Calif.: Undena.
- Longacre, William, Kenneth Kvamme, and Masashi Kobayashi. 1988. "Southwestern Pottery Standardization: An Ethnoarchaeological View from the Philippines." *The Kiva* 53: 101–112.
- Lupton, Alan. 1996. *Stability and Change. Socio-Political Development in North Mesopotamia and South-East Anatolia 4000–2700 B.C.* Oxford: BAR International Series 627.
- Luttwak, Edward N. 1976. *The Grand Strategy of the Roman Empire*. Baltimore: The Johns Hopkins University Press.
- Mann, Michael. 1986. *The Sources of Social Power*, volume I. Cambridge: Cambridge University Press.
- Marcus, Michelle. 1990a. "Centre, Province, and Periphery: A New Paradigm From Iron Age Iran." *Art History* 13: 129–150.
- . 1990b. "Emblems of Authority: The Seals and Sealings from Hasanlu IVB." *Expedition* 31: 53–63.
- Marfoe, Leon. 1987. "Cedar Forest to Silver Mountain: Social Change and the Development of Long Distance Trade in Early Near Eastern Societies." Pp. 25–35 in Rowlands, Larsen, and Kristiansen.
- Martin, William G. 1994. "The World-Systems Perspective in Perspective." *Review* 17: 145–185.
- Mathien, Frances Joan. 1986. "External Contact and the Chaco Anasazi." Pp. 220–242 in Mathien and McGuire.
- Mathien, Frances Joan, and Randall H. McGuire, eds. 1986. *Ripples in the Chichimec Sea. New Considerations of Southwestern-Mesoamerican Interactions*. Carbondale: Southern Illinois University Press.
- Maxwell-Hyslop, Rachel. 1977. "Sources of Sumerian Gold." *Iraq* 39: 83–86.
- Mayr, Ernst. 1982. *The Growth of Biological Thought*. Cambridge: Harvard University Press.
- McCorriston, Joy. 1997. "The Fiber Revolution: Textile Extensification, Alienation, and Social Stratification in Ancient Mesopotamia." *Current Anthropology* 38: 517–549.
- McGuire, Randall H. 1980. "The Mesoamerican Connection in the Southwest." *The Kiva* 46: 3–38.
- . 1986. "Economies and Modes of Production in the Prehistoric Southwestern Periphery." Pp. 243–269 in Mathien and McGuire.
- McKee, L. W. 1987. "Delineating Ethnicity from the Garbage of Early Virginians: Faunal Remains from the Kingsmill Plantation Slave Quarter." *American Archaeology* 6: 31–39.
- Meillassoux, C., ed. 1971. *The Development of Indigenous Trade and Markets in West Africa*. London: Oxford University Press.
- Michalowski, Piotr. 1987. "Charisma and Control: On Continuity and Change in Early

- Mesopotamian Bureaucratic Systems." Pp. 55–68 in *The Organization of Power: Aspects of Bureaucracy in the Ancient Near East*, ed. M. Gibson and R. Biggs. Chicago: University of Chicago Oriental Institute.
- . 1993. "Tokenism." *American Anthropologist* 95: 996–999.
- Michel, Rudolph, Patrick McGovern, and Virginia Badler. 1993. "The First Wine and Beer: Chemical Detection of Ancient Fermented Beverages." *Analytical Chemistry* 65: 408–413.
- Millard, Alan. 1988. "The Bevelled Rim Bowls: Their Nature and Significance." *Iraq* 50: 49–58.
- Miller, Daniel, and Christopher Tilley, eds. 1984. *Ideology, Power, and Prehistory*. Cambridge: Cambridge University Press.
- Miller, Naomi. 1994a. "Some Archaeobotanical Remains from the 1992 Excavation Season at Hacinebi Tepe," Appendix 1. *Anatolica* 20: 168–172.
- . 1994b. "Environmental Constraints and Cultural Choices Along the Euphrates Between the Fourth and Second Millennium B.C." Paper presented at the Society for American Archaeology 59th Annual Meeting, Anaheim, Calif, April 21.
- . 1996a. "Hacinebi Tepe 1993: Archaeobotanical Report." Pp. 205–260 in Stein et al. 1996a.
- . 1996b. "Archaeobotanical Remains From the 1995 Excavations at Hacinebi Tepe." Pp. 106–109 in Stein et al. 1996b.
- , ed. 1990. *Economy and Settlement in the Near East: Analyses of Ancient Sites and Materials*. MASCA Research Papers in Science and Archaeology 7 (supplement). Philadelphia: University of Pennsylvania, University Museum.
- Miller, Naomi, and Tristine Smart. 1984. "Intentional Burning of Dung as Fuel: A Mechanism for the Incorporation of Charred Seeds into the Archaeological Record." *Journal of Ethnobiology* 4: 15–28.
- Millett, Martin. 1990. *The Romanization of Britain*. Cambridge: Cambridge University Press.
- Moorey, P. R. S. 1987. "On Tracking Technology Transfers in Prehistory: The Case of Egypt and Lower Mesopotamia in the Fourth Millennium B.C." Pp. 36–46 in Rowlands, Larsen, and Kristiansen.
- Mudar, Karen. 1982. "Early Dynastic III Animal Utilization at Lagash: A Report on the Fauna of Tell al Hiba." *Journal of Near Eastern Studies* 41: 23–34.
- Muhly, James. 1973. *Copper and Tin: The Distribution of Mineral Resources and the Nature of the Metals Trade in the Early Bronze Age*. Hamden, Conn.: Transactions of the Connecticut Academy of Arts and Sciences, vol. 43.
- Murphy, Joseph. 1994. *Working the Spirit: Ceremonies of the African Diaspora*. Boston: Beacon Press.
- Nash, June. 1981. "Ethnographic Aspects of the World Capitalist System." *Annual Review of Anthropology* 10: 393–423.
- Needham, Joseph. 1959. *Science and Civilization in China*, Vol. 3. Cambridge: Cambridge University Press.
- Nicola, Jeffrey. 1994. "Changing Patterns of Economic Organization at Hacinebi Tepe, 3800–3000 B.C.: A Zooarchaeological Analysis." Manuscript on file, Northwestern University Anthropology Dept.
- Nissen, Hans. 1977. "Aspects of the Development of Early Cylinder Seals." Pp. 15–23 in Gibson and Biggs.

- 1985. "The Emergence of Writing in the Ancient Near East." *Interdisciplinary Science Reviews* 10: 349–361.
- . 1986a. "The Archaic Texts from Uruk." *World Archaeology* 17: 317–334.
- . 1986b. "The Development of Writing and Glyptic Art." Pp. 316–331 in Röllig and Finkbeiner.
- . 1988. *The Early History of the Ancient Near East 9000–2000 B.C.* Chicago: University of Chicago Press.
- Nissen, Hans, Peter Damerow, and Robert Englund. 1993. *Archaic Bookkeeping: Early Writing and Techniques of Economic Administration in the Ancient Near East.* Chicago: University of Chicago Press.
- Oates, David. 1968. *Studies in the Ancient History of Northern Iraq.* London: Oxford University Press.
- Oates, David, and Joan Oates. 1993. "Excavations at Tell Brak 1992–93." *Iraq* 55: 155–199.
- Oates, Joan. 1978. "Ubaid Mesopotamia and Its Relation to Gulf Countries." Pp. 39–52 in *Qatar Archaeological Report, Excavations 1973*, ed. Beatrice de Cardi. Oxford: Oxford University Press.
- . 1983. "Ubaid Mesopotamia Reconsidered." Pp. 251–281 in Young, Smith, and Mortensen.
- . 1993. "Trade and Power in the Fifth and Fourth Millennia B.C.: New Evidence from Northern Mesopotamia." *World Archaeology* 24: 403–422.
- Oates, Joan, Thomas E. Davidson, Diana Kamilli, and Hugh McKerrell. 1977. "Seafaring Merchants of Ur?" *Antiquity* 51: 221–234.
- Oates, Joan, and David Oates. 1997. "An Open Gate: Cities of the Fourth Millennium B.C." *Cambridge Archaeological Journal* 7: 287–297.
- Özbal, Hadi. 1996. "Chemical Analysis of a Copper Chisel from Hacinebi Tepe." *Anatolica* 22: 109–110.
- . 1997. "Early Metal Technology at Hacinebi Tepe." Pp. 139–143 in Stein et al.
- Özbal, Hadi, Bryan Earl, and Mieke Adriaens. 1998. "Early Fourth Millennium Copper Metallurgy at Hacinebi." Pp. 167–170 in Stein et al.
- Özdoğan, Mehmet. 1977. *Lower Euphrates Basin 1977 Survey.* Istanbul: Middle East Technical University Lower Euphrates Project Publications Series 1, no. 2.
- Özguç, Nimet. 1988. "Samsat Mühürleri." *Türk Tarih Kurumu Belleten* 51: 429–438 and plates.
- . 1992. "The Uruk Culture at Samsat." Pp. 151–165 in *Von Uruk nach Tuttul. Eine Festschrift für Eva Strommenger*, ed. B. Hrouda, S. Kroll, and P. Spanos. Munich: Profil Verlag.
- Özgtüç, Tahsin. 1963. "An Assyrian Trading Outpost." *Scientific American* 207: 235–242.
- . 1986. *Kultepe-Kanis II: New Researches at the Center of the Assyrian Trading Colonies.* Ankara: Türk Tarih Kurumu.
- Özten, Aliye. 1984. "Two Pots Recovered in the Excavations at Samsat Belonging to the Late Chalcolithic Period." *Anadolu* 20: 261–269.
- Paddock, John. 1983. "The Oaxaca Barrio at Teotihuacán." Pp. 170–175 in *The Cloud People: Divergent Evolution of the Zapotec and Mixtec Civilizations*, ed. K. Flannery and J. Marcus. New York: Academic Press.
- Pailes, Richard, and Joseph Whitecotton. 1979. "The Greater Southwest and the

- Mesoamerican 'World' System: An Exploratory Model of Frontier Relationships." Pp. 105–121 in *The Frontier: Comparative Studies*, ed. W. Savage and S. Thomson. Norman: University of Oklahoma Press.
- Palmieri, Alba. 1977. "The 1973 and 1975 Campaigns at Arslantepe (Malatya)." *Türk Arkeoloji Dergisi* 24: 123–132.
- . 1981. "Excavations at Arslantepe (Malatya)." *Anatolian Studies* 31: 101–119.
- . 1985. "Eastern Anatolia and Early Mesopotamian Urbanization: Remarks on Changing Relations." Pp. 191–213 in *Studi di Paleontologia in Onore di Salvatore M. Puglisi*, ed. M. Liverani, A. Palmieri, and R. Peroni. Rome: Università di Roma "La Sapienza."
- Palmieri, Alba, and Marcella Frangipane. 1986. "Assetto Redistributivo di Una Società Protourbana della Fine del 4° Millennio." *Dialoghi di Archeologia* 1: 35–44.
- Payne, Sebastian. 1973. "Kill-Off Patterns in Sheep and Goats: The Mandibles from Aşvan Kale." *Anatolian Studies* 23: 281–303.
- Pease, Franklin. 1982. "The Formation of Tawantisuyu: Mechanisms of Colonization and Relationship with Ethnic Groups." Pp. 173–198 in *The Inca and Aztec States, 1400–1800*, ed. G. Collier, R. Rosaldo, and J. Wirth. New York: Academic Press.
- Peebles, Christopher, and Susan Kus. 1977. "Some Archaeological Correlates of Ranked Societies." *American Antiquity* 42: 421–448.
- Peltenburg, Edgar, Diane Bolger, Stuart Campbell, Mary Anne Murray, and Richard Tipping. 1996. "Jerablus-Tahtani, Syria, 1995: Preliminary Report." *Levant* 28: 1–25.
- Peltenburg, Edgar, Stuart Campbell, Stephen Carter, Fiona M. K. Stephens, and Richard Tipping. 1997. "Jerablus-Tahtani, Syria, 1996: Preliminary Report." *Levant*: 1–17.
- Peltenburg, Edgar, Stuart Campbell, Paul Croft, Dorothy Lunt, Mary Anne Murray, and Marie Watt. 1995. "Jerablus-Tahtani, Syria, 1992–4: Preliminary Report." *Levant* 27: 1–28.
- Pfaffenberger, Brian. 1992. "Social Anthropology of Technology." *Annual Review of Anthropology* 21: 491–516.
- Pittman, Holly. 1994. "Towards an Understanding of the Role of Glyptic Imagery in the Administrative Systems of Proto-Literate Greater Mesopotamia." Pp. 177–203 in Ferioli et al.
- . 1996a. "Preliminary Report on the Administrative Artifacts: Hacinebi Tepe 1995 Season." Pp. 98–100 in Stein et al. 1996a.
- . 1996b. "Preliminary Report on the Glyptic Art: Hacinebi, 1993." Pp. 230–233 in Stein et al. 1996a.
- . 1998. "Preliminary Comments on the Glyptic found in the 1997 Season at Hacinebi Tepe." Pp. 170–173 in Stein et al.
- Pliny. 1931. *Natural History*. J. Bostock and H. T. Riley, trans. London: Henry G. Bohn.
- Pollock, Susan. 1983. *The Symbolism of Prestige: An Archaeological Example from the Royal Cemetery of Ur*. Ph.D. diss., Department of Anthropology, University of Michigan.
- . 1991. "Women in a Men's World: Images of Sumerian Women." Pp. 366–387 in *Engendering Archaeology: Women and Prehistory*, ed. J. Gero and M. Conkey. Oxford: Blackwell.
- . 1992. "Bureaucrats and Managers, Peasants and Pastoralists, Imperialists and

- Traders: Research on the Uruk and Jemdet Nasr Periods in Mesopotamia." *Journal of World Prehistory* 6: 297–336.
- Pollock, Susan, and Cheryl Coursey. 1995. "Ceramics from Hacinebi Tepe: Chronology and Connections." *Anatolica* 21: 101–141.
- . 1996. "Hacinebi Uruk Pottery: Preliminary Report." Pp. 233–239 in Stein et al. 1996a.
- Pool, Christopher. 1992. "Strangers in a Strange Land: Ethnicity and Ideology at an Enclave Community in Middle Classic Mesoamerica." Pp. 41–55 in *Ancient Images, Ancient Thought: The Archaeology of Ideology*, ed. A. S. Goldsmith. Calgary, Alberta: University of Calgary.
- Prag, Kay. 1978. "Silver in the Levant in the Fourth Millennium B.C." Pp. 36–45 in *Archaeology in the Levant*, ed. P. R. S. Moorey and P. J. Parr. Warminster: Aris and Phillips.
- Price, Barbara. 1978. "Secondary State Formation: An Explanatory Model." Pp. 161–186 in Cohen and Service.
- Ramenofsky, Ann. 1987. *Vectors of Death: The Archaeology of European Contact*. Albuquerque: University of New Mexico Press.
- Redding, Richard. 1981. *Decision Making in Subsistence Herding of Sheep and Goats in the Middle East*. Ph.D. diss., Department of Anthropology, University of Michigan.
- Reimer, Stephen. 1989. "Tell Qrayya on the Middle Euphrates." Pp. 279–290 in Rothman.
- Renfrew, Colin. 1975. "Trade as Action at a Distance: Questions of Integration and Communication." Pp. 3–59 in *Ancient Civilization and Trade*, ed. J. Sabloff and C. C. Lamberg-Karlovsky. Albuquerque: University of New Mexico Press.
- . 1986. "Peer Polity Interaction and Socio-Political Change." Pp. 1–18, introduction to Renfrew and Cherry.
- Renfrew, Colin, and John Dixon. 1976. "Obsidian in Western Asia: A Review." Pp. 137–150 in *Problems in Social and Economic Archaeology*, ed. G. Sieveking, I. H. Longworth, and K. E. Wilson. London: Duckworth.
- Renfrew, Colin, John Dixon, and J. R. Cann. 1966. "Obsidian and Early Cultural Contact in the Near East." *Proceedings of the Prehistoric Society* 32: 30–72.
- . 1968. "Further Analyses of Near Eastern Obsidians." *Proceedings of the Prehistoric Society* 34: 319–331.
- Renfrew, Colin, and John Cherry, eds. 1986. *Peer Polity Interaction and Socio-Political Change*. Cambridge: Cambridge University Press.
- Rice, Prudence. 1991. "Specialization, Standardization and Diversity: A Retrospective." Pp. 257–279 in *The Ceramic Legacy of Anna O. Shepard*, ed. R. Bishop and F. Lange. Boulder: University Press of Colorado.
- Roaf, Michael. 1990. *Cultural Atlas of Mesopotamia and the Ancient Near East*. New York: Facts on File.
- Roaf, Michael, and Jane Galbraith. 1994. "Pottery and p-Values: 'Seafaring Merchants of Ur?' Re-examined." *Antiquity* 68: 770–783.
- Röllig, Wolfgang, and Uwe Finkbeiner, eds. 1986. *Gamdat Nasr: Period or Regional Style?* Wiesbaden: Dr. Ludwig Reichert Verlag.
- Rosen, Steven. 1997. *Lithics After the Stone Age*. Walnut Creek, Calif.: Altamira Press.
- Rostovtzeff, Michael. 1938. *Dura Europos and Its Art*. Oxford: Oxford University Press.

- Rothman, Mitchell. 1988. *Centralization, Administration, and Function at Fourth Millennium B.C. Tepe Gawra, Northern Iraq*. Ph.D. diss., Anthropology Department, University of Pennsylvania.
- . 1993. "Another Look at the 'Uruk Expansion' from the Tigris Piedmont." Pp. 163–176 in Frangipane et al.
- . 1994a. "Seal and Sealing Findspot, Design, Audience, and Function: Monitoring Changes in Administrative Oversight and Structure at Tepe Gawra During the Fourth Millennium B.C." Pp. 97–119 in Ferioli, Fiandra, Fissore, and Frangipane.
- . 1994b. "Sealings as a Control Mechanism in Prehistory: Tepe Gawra XI, X, and VIII." Pp. 103–120 in Stein and Rothman.
- , ed. 1989. "Out of the Heartland: The Evolution of Complexity in Peripheral Mesopotamia during the Uruk Period." *Paléorient* 15: 279–290.
- Rothman, Mitchell, and M. James Blackman. 1990. "Monitoring Administrative Spheres of Action in Late Prehistoric Northern Mesopotamia with the Aid of Chemical Characterization (INAA) of Sealing Clays." Pp. 19–45 in Miller.
- Rouault, Olivier, and Maria Grazia Masetti-Rouault, eds. 1993. *L'Euphrate e il Tempo: La Civiltà del Medio Euphrate e della Gezira Siriana*. Milan: Electa.
- Rowlands, Michael. 1987. "Centre and Periphery: A Review of a Concept." Pp. 1–11 in Rowlands, Larsen, and Kristiansen.
- Rowlands, Michael, Mogens Larsen, and Kristian Kristiansen, eds. 1987. *Centre and Periphery in the Ancient World*. Cambridge: Cambridge University Press.
- Rowton, Michael. 1967. "The Woodlands of Ancient Asia." *Journal of Near Eastern Studies* 26: 261–277.
- Sahlins, Marshall. 1990. "The Political Economy of Grandeur in Hawaii from 1810 to 1830." Pp. 26–56 in *Culture Through Time. Anthropological Approaches*, ed. Emiko Ohnuki-Tierney. Stanford: Stanford University Press.
- . 1994. "Cosmologies of Capitalism: The Trans-Pacific Sector of 'The World System.'" Pp. 412–455 in *Culture/Power/History*, ed. Dirks, Eley, and Ortner. Princeton: Princeton University Press.
- Santley, Robert. 1984. "Obsidian Exchange, Economic Stratification, and the Evolution of Complex Society in the Basin of Mexico." Pp. 43–85 in *Trade and Exchange in Early Mesoamerica*, ed. Kenneth Hirth. Albuquerque: University of New Mexico Press.
- Santley, Robert, and Rani Alexander. 1992. "The Political Economy of Core-Periphery Systems." Pp. 23–49 in Schortman and Urban 1992.
- Santley, Robert, Claire Yarborough, and B. Hall. 1987. "Enclaves, Ethnicity, and the Archaeological Record at Matacapan." Pp. 85–100 in *Ethnicity and Culture*, ed. R. Auger, M. Glass, S. MacEachern, and P. MacCartney. Calgary, Alberta: Archaeology Association of the University of Calgary.
- Schmandt-Besserat, Denise. 1978. "The Earliest Precursor of Writing." Pp. 152–161 in *Hunters, Farmers, and Civilizations: Old World Archaeology*, ed. C. C. Lamberg-Karlovsky. San Francisco: W. H. Freeman.
- . 1981. "From Tokens to Tablets: A Re-evaluation of the So-Called 'Numerical Tablets.'" *Visible Language* 15: 321–344.
- Schneider, Jane. 1977. "Was There a Pre-Capitalist World System?" *Peasant Studies* 6: 20–29.
- Schortman, Edward. 1989. "Inter-regional Interaction in Prehistory: The Need for a New Perspective." *American Antiquity* 54: 52–65.

- Schortman, Edward, and Patricia Urban. 1994. "Living on the Edge: Core-Periphery Relations in Ancient Southeastern Mesoamerica." *Current Anthropology* 35: 401–430.
- , eds. 1992. *Resources, Power, and Inter-regional Interaction*. New York: Plenum.
- Schwartz, Glenn. 1988a. *A Ceramic Chronology from Tell Leilan*. New Haven: Yale University Press.
- . 1988b. "Excavations at Karatut Mevkii and Perspectives on the Uruk/Jemdet Nasr Expansion." *Akkadica* 56: 1–41.
- . 1998. "Syria and the Uruk Expansion." Paper presented at the School of American Research Advanced Seminar "Mesopotamia in the Era of State Formation," March.
- Schwartz, Mark. 1998. "Bitumen Sourcing and Ancient Inter-Regional Exchange: The Use of Geochemical techniques to reconstruct 4th Millennium B.C. Mesopotamian Colonial Networks." Paper presented at the Society for American Archaeology 1998 Annual Meeting, March 26.
- Sella, Domenico. 1977. "The World System and Its Dangers." *Peasant Studies* 6: 29–32.
- Service, Elman. 1962. *Primitive Social Organization, An Evolutionary Perspective*. New York: Random House.
- . 1978. "Classical and Modern Theories of the Origins of Government." Pp. 21–34 in Cohen and Service.
- Sinopoli, Carla. 1988. "The Organization of Craft Production at Vijayanagara, South India." *American Anthropologist* 90: 580–597.
- . 1994. "The Archaeology of Empires." *Annual Review of Anthropology* 23: 159–180.
- Skocpol, Theda. 1977. "Wallerstein's World Capitalist System: A Theoretical and Historical Critique." *American Journal of Sociology* 82: 1075–1090.
- Smith, Michael E. 1986. "The Role of Social Stratification in the Aztec Empire: A View from the Provinces." *American Anthropologist* 88: 70–91.
- Snarskis, Michael. 1987. "The Archaeological Evidence for Chiefdoms in Eastern and Central Costa Rica." Pp. 105–118 in Drennan and Uribe.
- Spence, Michael. 1976. "Human Skeletal Material from the Oaxaca Barrio in Teotihuacán, Mexico." Pp. 129–148 in *Archaeological Frontiers: Papers on New World High Cultures in Honor of J. Charles Kelley*, ed. R. Pickering. Carbondale: Southern Illinois University Press.
- Spencer, Charles. 1987. "Rethinking the Chiefdom." Pp. 369–390 in Drennan and Uribe.
- . 1990. "On the Tempo and Mode of State Formation." *Journal of Anthropological Archaeology* 9: 1–30.
- Spielmann, Katherine, ed. 1991. *Farmers, Hunters, and Colonists: Interaction between the Southwest and the Southern Plains*. Tucson: University of Arizona Press.
- Stanish, Charles. 1989. "Household Archaeology: Testing Models of Zonal Complementarity in the South Central Andes." *American Anthropologist* 91: 7–24.
- Stark, Barbara. 1986. "Perspectives on the Peripheries of Mesoamerica." Pp. 270–290 in Mathien and McGuire.
- . 1990. "The Gulf Coast and the Central Highlands of Mexico: Alternative Models of Interaction." *Research in Economic Anthropology* 12: 243–285.

- Stein, Gil J. 1987. "Regional Economic Integration in Early State Societies: Third Millennium B.C. Pastoral Production at Gritille, Southeast Turkey." *Paléorient* 13: 101–111.
- . 1989. "Strategies of Risk Reduction in Herding and Hunting Systems of Neolithic South Anatolia." Pp. 87–97 in *Early Animal Domestication and Its Cultural Context*, ed. P. Crabtree, D. Campana, and K. Ryan. MASCA Research Papers in Science and Archaeology. Philadelphia: University of Pennsylvania, University Museum, MASCA.
- . 1990. Comments on Guillermo Algaze. "The Uruk Expansion: Cross Cultural Exchange in Early Mesopotamian Civilization." *Current Anthropology* 31: 66–67.
- . 1991. "Imported Ideologies and Local Identities: North Mesopotamia in the Fifth Millennium B.C." Paper presented at the Society for American Archaeology 56th Annual Meeting, New Orleans, April 26.
- . 1994a. "Economy, Ritual, and Power in Ubaid Mesopotamia." Pp. 35–46 in Stein and Rothman.
- . 1994b. "The Organizational Dynamics of Complexity in Greater Mesopotamia." Pp. 11–22 in Stein and Rothman.
- . 1996. "Producers, Patrons, and Prestige: Craft Specialists and Emergent Elites in Mesopotamia from 5500–3100 B.C." Pp. 25–38 in *Craft Specialization and Social Evolution: In Memory of V. Gordon Childe*, ed. B. Wailes. Philadelphia: University of Pennsylvania, University Museum. Museum Monograph 94.
- . 1997a. "1995 Excavations at Hacinebi Tepe." Pp. 93–120 in *XVIII Kazı Sonuçları Toplantısı*. Ankara: Republic of Turkey, Ministry of Culture, General Directorate of Monuments and Museums.
- . 1997b. "Mesopotamian Metizaje: Interaction, Identity, and Gender in a 4th Millennium B.C. Uruk Colony." Paper presented at the Society for American Archaeology Annual Meeting, Nashville, Tenn., April 4.
- . 1998. "World Systems Theory and Alternative Modes of Interaction in the Archaeology of Culture Contact." Pp. 220–255 in Cusick.
- Stein, Gil J., Reinard Bernbeck, Cheryl Coursey, Augusta McMahon, Naomi Miller, Adnan Mısı, Jeffrey Nicola, Holly Pittman, Susan Pollock, and Henry Wright. 1996a. "Uruk Colonies and Mesopotamian Communities: An Interim Report on the 1992–3 Excavations at Hacinebi, Turkey." *American Journal of Archaeology* 100: 205–260.
- Stein, Gil J., and M. James Blackman. 1993. "The Organizational Context of Specialized Craft Production in Early Mesopotamian States." *Research in Economic Anthropology* 14: 29–59.
- Stein, Gil J., Kenneth Boden, Christopher Edens, Julie Pearce Edens, Kathryn Keith, Augusta McMahon, and Hadi Özbal. 1997. "Excavations at Hacinebi, Turkey—1996: Preliminary Report." *Anatolica* 23: 111–171.
- Stein, Gil J., Christopher Edens, Julie Pearce Edens, Kenneth Boden, Nicola Laneri, Hadi Özbal, Bryan Earl, Mieke Adriaens, and Holly Pittman. 1998. "Southeast Anatolia Before the Uruk Expansion: Preliminary Report on the 1997 Excavations at Hacinebi, Turkey." *Anatolica* 24: 143–193.
- Stein, Gil J., Christopher Edens, Naomi Miller, Hadi Özbal, Julie Pearce, and Holly Pittman. 1996b. "Hacinebi, Turkey: Preliminary Report on the 1995 Excavations." *Anatolica* 22: 85–128.

- Stein, Gil J., and Adnan Mısır. 1994. "Mesopotamian-Anatolian Interaction at Hacinebi, Turkey: Preliminary Report on the 1992 Excavations." *Anatolica* 20: 145–189.
- Stein, Gil J., and Jeffrey Nicola. 1996. "Late Chalcolithic Faunal Remains from Hacinebi." Pp. 257–260 in Stein et al. 1996a.
- Stein, Gil J., and Mitchell Rothman, eds. 1994. *Chiefdoms and Early States in the Near East. The Organizational Dynamics of Complexity*. Madison, Wis.: Prehistory Press.
- Stein, Gil J., and Patricia Wattenmaker. 1990. "The 1987 Tell Leilan Regional Survey: Preliminary Report." Pp. 8–18 in Miller.
- Steponaitis, Vincas. 1981. "Settlement Hierarchies and Political Complexity in Non-market Societies: The Formative Period of the Valley of Mexico." *American Anthropologist* 83: 320–363.
- Stern, Steve. 1988. "Feudalism, Capitalism, and the World System in the Perspective of Latin America and the Caribbean." *American Historical Review* 93: 829–872.
- Steward, Julian. 1955. *Theory of Culture Change*. Bloomington: University of Indiana Press.
- . 1979 [1950]. *Theory of Culture Change*. Urbana: University of Illinois Press.
- Stone, Elizabeth. 1987. *Nippur Neighborhoods*. Studies in Ancient Oriental Civilization 44. Chicago: Oriental Institute.
- Strommenger, Eva. 1980. *Habuba Kabira, Eine Stadt vor 5000 Jahren*. Mainz am Rhein: Phillip von Zabern.
- Sürenhagen, Dietrich. 1974–75. "Untersuchungen zur Keramikproduktion innerhalb der Spät-Uruklichen Siedlung Habuba Kabira-süd in Nord Syrien." *Acta Praehistorica et Archaeologica* 5/6: 43–164.
- . 1986a. "Archaische Keramik aus Uruk-Warka, Erster Teil: Die Keramik der Schichten XVI–VI aus den Sondagen Tiefschnitt und Sägegraben in Eanna." *Baghdader Mitteilungen* 17: 7–95.
- . 1986b. "The Dry-Farming Belt: The Uruk Period and Subsequent Developments." Pp. 7–43 in *The Origins of Cities in Dry Farming Syria and Mesopotamia in the Third Millennium B.C.*, ed. H. Weiss. Guilford, Conn.: Four Quarters Publishing Co.
- Terray, Emmanuel. 1974. "Long-Distance Exchange and the Formation of the State: The Case of the Abroon Kingdom of Gyaman." *Economic Sociology* 3: 315–345.
- Thomas, Nicholas. 1991. *Entangled Objects*. Cambridge: Harvard University Press.
- Thuesen, Ingolf. 1989. "Diffusion of 'Ubaid Pottery into Western Syria." Pp. 418–437 in Henrickson and Thuesen.
- Tobler, Arthur. 1950. *Excavations at Tepe Gawra, levels IX–XX*, Vol. 2. Philadelphia: University of Pennsylvania University Museum.
- Trigger, Bruce. 1989. *A History of Archaeological Thought*. Cambridge: Cambridge University Press.
- Trufelli, Franca. 1994. "Standardisation, Mass Production and Potter's Marks in the Late Chalcolithic Pottery of Arslantepe (Malatya)." *Origini* 18: 245–289.
- Tsatskheladze, Gocha, and Franco De Angelis, eds. 1994. *The Archaeology of Greek Colonisation. Essays Dedicated to Sir John Boardman*. Oxford: Oxford University Committee for Archaeology Monograph 40, Oxbow Books.
- Turkey, Institute of Mineral Research and Exploration. 1970. *Arsenic, Mercury, Anti-*

- mony and Gold Deposits of Turkey*. Ankara: Mineral Research and Exploration Institute of Turkey Publication no. 129.
- . 1972. *Lead, Copper and Zinc Deposits of Turkey*. Ankara: Mineral Research and Exploration Institute of Turkey Publication no. 133.
- Van Buren, Mary. 1996. "Rethinking the Vertical Archipelago: Ethnicity, Exchange, and History in the South American Andes." *American Anthropologist* 98: 338–351.
- Van Dommelen, Peter. 1996. "Colonial Constructs: Colonialism and Archaeology in the Mediterranean." *World Archaeology* 28: 305–323.
- Van Driel, Gus. 1982. "Tablets from Jebel Aruda." Pp. 12–25 in *Zikir Sumim. F. R. Kraus Festschrift*, ed. G. Van Driel et al. Leiden: E. J. Brill.
- . 1983. "Seals and Sealings from Jebel Aruda 1974–1978." *Akkadica* 33: 34–62.
- Van Driel, Gus, and Carol Van Driel-Murray. 1979. "Jebel Aruda 1977–1978." *Akkadica* 12: 2–28.
- . 1983. "Jebel Aruda, the 1982 Season of Excavation. Interim Report." *Akkadica* 33: 1–26.
- van Loon, Maurits, ed. 1978. *Korucutepe*, Vol. 2. Amsterdam: North Holland.
- Veenhof, Klaus R. 1972. *Aspects of Old Assyrian Trade and Its Terminology*. Leiden: E. J. Brill.
- Wagner, Jorg. 1976. *Seleukeia am Euphrat/Zeugma*. Wiesbaden: Ludwig Reichert Verlag.
- Wallerstein, Immanuel. 1974a. *The Modern World System I*. San Diego: Academic Press.
- . 1974b. "The Rise and Future Demise of the World Capitalist System: Concepts for Comparative Analysis." *Comparative Studies in Society and History* 16: 387–415.
- . 1980. *The Modern World System II: Mercantilism and the Consolidation of the European World Economy, 1600–1750*. New York: Academic Press.
- . 1983. *Historical Capitalism*. London, Verso Editions.
- , ed. 1975. *World Inequality: Origins and Perspectives on the World System*. Montreal: Black Rose Books.
- Warms, Richard. 1990. "Who Are the Merchants? Ethnic Identity and Trade in Western Mali." *Ethnic Groups* 8: 57–72.
- Washbrook, David. 1990. "South Asia, the World System, and World Capitalism." *Journal of Asian Studies* 49: 479–508.
- Wattenmaker, Patricia. 1990. Comments on Guillermo Algaze. "The Uruk Expansion: Cross Cultural Exchange in early Mesopotamian Civilization." *Current Anthropology* 31: 67–69.
- . 1997. "Kazane Höyük, 1995: Excavations at an Early City." Pp. 81–91 in *XVIII Kazı Sonuçları Toplantısı*. Ankara: Republic of Turkey, Ministry of Culture, General Directorate of Monuments and Museums.
- Wattenmaker, Patricia, and Gil J. Stein. 1989. "Leilan 1987 Survey: Uruk Summary." Pp. 283–284 in Rothman.
- Weiss, Harvey, and T. Cuyler Young Jr. 1975. "The Merchants of Susa: Godin V and Plateau-Lowland Relations in the Late Fourth Millennium B.C." *Iran* 13: 1–17.
- Wells, Peter. 1992. "Tradition, Identity, and Change Beyond the Roman Frontier." Pp. 175–188 in Schortman and Urban.

- Whallon, Robert. 1979. *An Archaeological Survey of the Keban Reservoir Area of East Central Turkey*. Ann Arbor: University of Michigan, Museum of Anthropology Memoir no. 11.
- White, Joyce. 1995. "Incorporating Heterarchy into Theory on Socio-Political Development: The Case for Southeast Asia." Pp. 101–123 in *Heterarchy and the Analysis of Complex Societies*, ed. R. Ehrenreich, C. Crumley, and J. Levy. Washington, D.C.: Archaeological Papers of the American Anthropological Association no. 6.
- White, Richard. 1991. *The Middle Ground. Indians, Empires, and Republics in the Great Lakes Region, 1650–1815*. Cambridge: Cambridge University Press.
- Whitecotton, Joseph, and Richard Pailles. 1986. "New World Precolumbian World Systems." Pp. 183–204 in Mathien and McGuire.
- Wilkinson, Tony; and David J. Tucker. 1995. *Settlement Development in the North Jazira, Iraq*. Iraq Archaeological Reports 3, British School of Archaeology in Iraq. Warminster: Aris and Phillips.
- Wilmsen, Edwin, ed. 1972. *Social Exchange and Interaction*, Vol. 46. Ann Arbor: University of Michigan Museum of Anthropology Papers.
- Winter, Irene. 1977. "Perspective on the 'Local Style' of Hasanlu IVB: A Study in Receptivity." Pp. 371–386 in Levine and Young.
- Wittfogel, Karl. 1974. "Developmental Aspects of Hydraulic Societies." Pp. 15–25 in *The Rise and Fall of Civilizations*, ed. C. C. Lamberg-Karlovsky and J. Sabloff. Menlo Park, Calif.: Cummings.
- Wolf, Eric. 1982. *Europe and the People Without History*. Berkeley: University of California Press.
- Wright, Gary. 1969. *Obsidian Analysis and Prehistoric Near Eastern Trade: 7500 to 3500 B.C.* Ann Arbor: University of Michigan Museum of Anthropology Anthropological Paper no. 37.
- Wright, Henry. 1972. "A Consideration of inter-regional Exchange in Greater Mesopotamia: 4000–3000 B.C." Pp. 95–147 in Wilmsen.
- . 1977. "Recent Research on the Origins of the State." *Annual Review of Anthropology* 6: 379–397.
- . 1978. "Toward an Explanation of the Origin of the State." Pp. 49–68 in Cohen and Service.
- . 1984. "Prestate Political Formations." Pp. 41–77 in *On the Evolution of Complex Societies. Essays in Honor of Harry Hoijer*, ed. W. Sanders, H. Wright, and R. M. Adams. Malibu, Calif.: Undena Press.
- . 1986. "The Evolution of Civilizations." Pp. 323–365 in *American Archaeology, Past and Future*, ed. D. Meltzer, D. Fowler, and J. Sabloff. Washington, D.C.: Smithsonian Institution.
- Wright, Henry, and Reinhard Bernbeck. 1996. "Flaked Stone Assemblages from Hacinebi Tepe." Pp. 239–247 in Stein et al. 1996a.
- Wright, Henry, and Gregory Johnson. 1975. "Population, Exchange, and Early State Formation in Southwestern Iran." *American Anthropologist* 77: 267–289.
- Wright, Henry, Naomi Miller, and Richard Redding. 1980. "Time and Process in an Uruk Rural Center." Pp. 265–284 in *L'Archéologie de l'Iraq du Début de l'Époque Néolithique à 333 Avant Notre Ère: Perspectives et Limites de l'Interprétation Anthropologique des Documents*, ed. M. T. Barrelet. Colloques Internationaux du CNRS, Vol. 580. Paris: Editions de CNRS.

- Wright, Henry, Richard Redding, and Susan Pollock. 1989. "Monitoring Interannual Variability: An Example from the Period of Early State Development in Southwestern Iran." Pp. 106–113 in *Bad Year Economics: Cultural Responses to Risk and Uncertainty*, ed. P. Halstead and J. O'Shea. Cambridge: Cambridge University Press.
- Wright, Rita. 1993. "Technological Styles: Transforming a Natural Object into a Cultural Object." Pp. 242–269 in *History From Things: Essays on Material Culture*, ed. S. Lubar and D. Kingery. Washington, D.C.: Smithsonian Institution Press.
- Yambert, Karl. 1981. "Alien Traders and Ruling Elites: The Overseas Chinese in Southeast Asia and the Indians in East Africa." *Ethnic Groups* 3: 173–198.
- Yener, K. Aslihan. 1982. "A Review of inter-regional Exchange in Southwest Asia." *Anatolica* 9: 33–75.
- . 1983. "The Production, Exchange, and Utilization of Silver and Lead Metals in Ancient Anatolia." *Anatolica* 10: 1–15.
- Yoffee, Norman. 1979. "The Decline and Rise of Mesopotamian Civilization: An Ethnoarchaeological Perspective on the Evolution of Social Complexity." *American Antiquity* 44: 5–35.
- . 1981. *Explaining Trade in Ancient Western Asia*. Monographs on the Ancient Near East 2: 1–40.
- . 1993. "Too Many Chiefs? (Or, Safe Texts for the 90's)." Pp. 60–78 in Yoffee and Sherratt.
- Yoffee, Norman, and Andrew Sherratt, eds. 1993. *Archaeological Theory: Who Sets the Agenda?* Cambridge: Cambridge University Press.
- Young, T. Cuyler, Jr. 1986. "Godin Tepe VI/V and Central Western Iran at the End of the Fourth Millennium." Pp. 212–228 in Röhlig and Finkbeiner.
- Young, T. Cuyler, Jr., P. E. L. Smith, and P. Mortensen, eds. 1983. *The Hilly Flanks and Beyond. Essays on the Prehistory of Southwest Asia*. Chicago: University of Chicago Oriental Institute Studies in Ancient Oriental Civilization no. 36.
- Zaccagnini, Carlo. 1987. "Aspects of Ceremonial Exchange in the Near East During the Second Millennium B.C." Pp. 57–65 in Rowlands, Larsen, and Kristiansen.
- Zeder, Melinda. 1988. "Understanding Urban Process Through the Study of Specialized Subsistence Economy in the Near East." *Journal of Anthropological Archaeology* 7: 1–55.
- . 1991. *Feeding Cities: Specialized Animal Economy in the Ancient Near East*. Washington, D.C.: Smithsonian Institution Press.
- . 1994. "Of Kings and Shepherds: Specialized Animal Economy in Ur III Mesopotamia." Pp. 175–191 in Stein and Rothman.
- Zettler, Richard. 1987. "Sealings as Artifacts of Institutional Administration in Ancient Mesopotamia." *Journal of Cuneiform Studies* 39: 197–240.

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